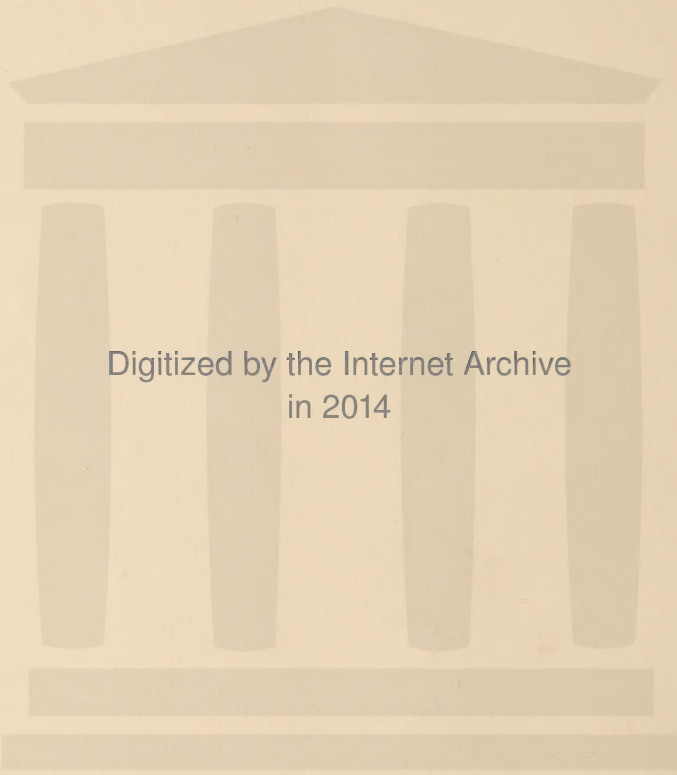


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R. J. Drughion, M.D.



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VIRGINIA MEDICAL SEMI-MONTHLY

(RICHMOND)

VOLUME III.

APRIL, 1898—MARCH, 1899, Inclusive.

THOROUGHLY INDEXED.

LANDON B. EDWARDS, M. D.,

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Original Communications.

IMPROVEMENT UPON SAYRE'S METHOD OF TREATING FRACTURED CLAVICLE.*

By J. W. HENSON, M. D., Richmond, Va.,

Professor of Anatomy, University College of Medicine, and
Surgeon to Virginia Hospital, Richmond, Va.

I crave your indulgence while I attempt, in as few words as possible, to explain to you an appliance which I hope you will find an improvement upon the present methods of securing position and immobility in a fractured clavicle.



Every intelligent doctor is aware that the indications in the treatment of this fracture, on account of the position and attachments of

* Read before Richmond Academy of Medicine and Surgery, March 8, 1898.

the bone, are to draw the distal fragments upward, backward, and outward, through the medium of its connection to the shoulder. To accomplish this, Sayre's method is the best now in use.

In this method, the adhesive strip, which passes from the arm of the injured side horizontally around the chest, admirably performs its function and rarely slips much.

But while the strip, which passes from the sound shoulder around underneath the opposite elbow and back again, does its work well when first applied, yet it is almost certain to slip, and in warm weather does so very quickly, thus losing efficiency; is apt to roll up on the shoulder and hurt by becoming cord-like, and is altogether very uncomfortable. In the place of the latter strip, I have substituted the following arrangement with success:

Out of denim, unbleached jeans or other stout cloth, get a seamstress to fashion, for the sound shoulder, what, for the want of a better name, we will call a shoulder-cap, with two extensions or tails, one opposite the other. When held in the hand, it bears a crude resemblance to a truncated dunce-cap. It must be so made as to fit simply the whole shoulder and upper part of the chest just below the axilla.

That this may be accomplished, an arm hole is necessary, which also serves the excellent purpose of preventing slipping.

There should be almost twice as much of the cap upon the shoulder as upon the chest below the axilla. The extensions or tails are one in front and one behind.

The posterior one is directed across the back along a line drawn from the shoulder supporting the cap obliquely downward toward the elbow. It should reach a little beyond the middle line, and may be pointed.

The anterior tail should have the same course across the front of the chest, reaching as far as the opposite nipple, and its end should vary in width from one and a half to two and a half inches according to the size of the patient.

Upon its under surface there is to be made a pocket, reaching from its tip upward and outward quite to the top of the shoulder, and just wide enough to accommodate the patient's hand. When tension is made upon both extensions at the same time, in the line of their direction, the cap should bear with equal pressure upon the shoulder and chest.

Attach a buckle to the end of each extension.

From the same stout cloth cut a narrow oblong piece sufficiently wide to accommodate the elbow, and long enough to reach from the middle of the arm to the middle of the forearm when extended. To each end of this, which we will call an elbow piece, attach a tape of a width to match the buckles mentioned above.

Now as to the application.



Apply the horizontal strip of adhesive plaster just as in Sayre's regular method. Then fit the shoulder-cap upon the sound shoulder.

Into the pocket underneath its front extension introduce the hand of the injured limb, after carrying the forearm up across the front of the chest.

Apply the elbow-piece to the already flexed elbow, and fasten its ends respectively to the anterior and posterior extensions of the shoulder-cap.

A hole should be made in the elbow-piece one and a half or two inches forward of its

centre for the reception of the olecranon process.

I have described in as simple a manner as possible the principle of the apparatus.

Under the direction of a doctor, a clever seamstress can make many useful modifications.

For instance, instead of the plain elbow-piece with hole for the olecranon, a pocket may be made to fit and securely grasp the elbow, so that, when the front connection is tightened, the latter (the elbow) will be more firmly held forward, and, through the principle of the first class of levers, the arm, with the side of the chest as a fulcrum, will draw the shoulder outward at the same time it is being held upward.

Examine, in the accompanying cuts, the smaller figure, which, by the way, is that of a child treated for a fractured clavicle by this means and with perfect success.

You will see that the mother has made, instead of a pocket for the elbow alone, a pocket or case for the elbow and forearm, which, when the apparatus is in position, is practically continuous with the pocket for the hand.

This gives additional support and security, and is to be advised in children to prevent removal of the hand.

Buttons may, of course, be used in the place of buckles for the fastenings. By properly adjusting the connections in this appliance, the desired position and support will, with certainty, be obtained and furthermore *maintained* with comfort.

DIPHTHERIA.*

By JOHN E. WALSH, M. D., Washington, D. C.

Bacteriologist and Medical Sanitary Inspector.

I have chosen for my paper this evening the subject of diphtheria, not because of anything particularly new that I have to offer—although some things mentioned are somewhat different from the generally accepted idea of this disease—but because of its seasonableness, and because, notwithstanding all that has been said and written about it, this disease is not well understood by a large number of physicians in active practice to-day.

There are many who still cling to the idea that it is merely a local disease; that as soon as the membrane has disappeared the patient

* Read at a meeting of The Medical and Surgical Society of the District of Columbia, February 3d, 1898.

is cured, and unable to communicate the disease to others. The fallacy of this view is shown by the fact that from cases attended by these men we can often trace others, and in some instances, weeks after the membrane has disappeared, sudden death of the patient has occurred, showing that he had not recovered, when the throat was clear.

My association with this disease, in the capacity of bacteriologist and medical sanitary inspector for the District of Columbia, has so changed my conception of it that I have ventured to occupy a small portion of your time with some of the results of my experience.

It is not necessary to go into its history to any extent. It is a very old disease, and has prevailed endemically and often epidemically from the time of Hippocrates.

Baillou, a French physician, in the latter part of the sixteenth century, was the first who published an accurate description of it, and up to the time Bretonneau published the result of his investigations, in 1826, there was much written of it under different names. Bretonneau gave it its name, meaning *leathery*, from the appearance of the membrane, which was thought to be a necessary accompaniment of the disease.

The name "diphtheria" was a good one, and served to distinguish the affection until the present time, when, I think, owing to the fact that a membrane is produced by three different organisms—two of which produce a condition not dangerous as regards life—this name should be discontinued and a more appropriate term used.

I have seen cases where no membrane at all was present, but in which the Klebs-Loeffler bacilli were found, and where the patient died of toxæmia. So that it is inappropriate to call such a case diphtheria, and apply the same term to a condition not dangerous.

The organisms producing the different forms of diphtheria are in the order of their severity—the staphylococcus pyogenes, the streptococcus pyogenes, and the Klebs Loeffler bacilli. As proper terms for these conditions, I beg to suggest the following: *Staphylo-angina*, *strepto-angina* and *angina-Klebs-Loeffler*.

It might be well, before proceeding with the consideration of the latter disease (which, to avoid confusion, I shall call by its old name in this paper), to say a few words of the first two for purposes of diagnosis, although a positive opinion cannot be rendered without a bacteriological examination.

Staphylo-angina is a comparatively mild affection, coming on suddenly with considerable

constitutional disturbance. The pulse is very rapid, and the temperature rises very quickly to 103°, or higher, returning to normal about the second or third day. Sometimes it is ushered in with a slight rigor, accompanied with pain in the back and limbs. There is considerable pain on deglutition, and the tonsils are seen red, swollen and congested, with follicular ulcers seen here and there over their surfaces. This disease terminates in recovery in a few days.

Strepto-angina is the most painful of these throat affections. In this the temperature rises more gradually to 102° or 103°, and remains stationary for several days. The inflammation is not confined to the tonsils, but extends usually on the pharynx, posterior nares, and all the tissues of the fauces, and by invasion of the Eustachian tube causes a difficulty in hearing. Sometimes there is a swelling of the glands of the neck, and there is great pain on deglutition, and often much prostration. The membrane does not usually cover all the inflamed surface, and is thin, of a yellowish white or grayish white appearance. This disappears in a few days, but the swelling of the tonsils and other tissues remain for several days, and recovery is slow.

In *angina-Klebs-Loeffler*, as its name indicates, the exciting cause is the bacillus recognized first by Klebs in 1883, and cultivated and described by Loeffler in the following year.

This, I believe, is pretty generally admitted at the present time to be the germ of this disease, although many, because of its presence in healthy throats, and others very slightly affected, contend that it has nothing to do with its causation. Before proceeding to the consideration of the disease itself, it might be interesting to say something regarding the technique of cultivation and examination of the germ, about which questions are often asked.

The blood from which the serum is prepared is collected at the abattoir in large tin pans, and allowed to coagulate, care being taken to separate the clot from the sides of the vessel. After twenty-four or forty-eight hours the blood plasma is drawn off as clear as possible. Three parts of this serum are mixed with one part of peptonized bouillon, to which has been added one per cent. of grape sugar. This mixture is run into the tubes, which have been previously sterilized by heat, and arranged in a slanting position in a coagulator, where they are allowed to remain at a temperature of about 85 or 90 degrees C., for three hours on two successive days. This is done for the pur-

pose of solidifying the serum and to kill the spores. It is sometimes necessary, but not often, to expose them for three days.

These are the tubes which are obtained from the stations about town, accompanied by a sterilized swab, and upon which the culture is made from the throats of suspected cases. When these tubes are received at the laboratory, they are put into a thermostat, or incubator, and left there for about twelve hours at the temperature of the body, about 37.5°C. They are then taken out to be examined under the microscope. In nearly every culture there is a growth of some sort, but occasionally there is a failure, owing, perhaps, to the culture having been taken immediately after the application of an antiseptic to the throat, the surface of the serum having been broken, dryness of serum, or some other condition rendering the germs sterile.

If, after you have submitted a culture for examination, you receive a report that it contains no growth, do not think that it necessarily indicates a favorable condition of your patient, or whether or not he has diphtheria; there should have been a growth of some organisms, which is prevented by one of the conditions mentioned.

A small portion of the growth in the tube is taken off on the end of a sterilized platinum needle, mixed with water on a cover slip or slide and spread over its surface. This is allowed to dry in the air, after which it is passed through the flame of a Bunsen burner to kill the germs and then stained. When viewed under the microscope, with a twelfth inch oil immersion lens, the field is seen covered with a variety of bacteria. Sometimes, but rarely, the field seems almost entirely filled with the diphtheria bacilli, but more often it is associated with a number of germs. Sometimes this organism predominates; at times it is necessary to carefully examine several fields to find it, or to say positively that it is absent from the culture.

The Klebs-Loeffler bacillus assumes a variety of shapes and sizes, all of which are characteristic, in the manner in which they take the stain.

Some are short, and so closely resemble the so-called pseudo-diphtheria bacillus, that it is impossible to differentiate between them. Some are straight, with ends stained deeply; others spindle shaped; others clubbed at one or both ends; some short curved; and some long curved, but all show the fractional staining.

I have not been able to determine that the size or shape of the bacilli bear any relation

to the severity of the disease, although it is said that the short organism is found in the milder cases. My experience has not proven this, for the short bacillus is often present in fatal cases and the long in mild. The largest bacillus that I have noticed was obtained from a case of diphtheritic conjunctivitis reported by Dr. Butler.

It is often stated that the Klebs-Loeffler bacillus can be found in healthy throats—in fact, is found in every throat—and, therefore, is not a necessary accompaniment of the disease. This statement is by no means true. True, you do have the germ in apparently healthy throats, but these persons are merely immune as regards themselves, and are capable of communicating the disease to others. We often see cases illustrating this, and I believe that is the principal mode of dissemination of the disease. Some time ago a culture was examined from the throat of a girl about twelve years of age, and showed the presence of the diphtheria bacilli. She did not have any other symptom of the disease, yet she conveyed it to two sisters, one of whom died. In a certain family there was a girl suffering from this disease, who presented all the clinical evidences, as well as the presence of the germ. Another member of the family had been under treatment by one of the advertising specialists (?) for catarrh for a month. A culture taken from his throat, to demonstrate the method of taking it, contained the germ. It was suggested to the attending physician that cultures be taken from the other members of the family. This was done, and the germ found in two of them, although they presented no symptoms. They were isolated, and although the bacillus persisted, for from three to six weeks, they were never sick. Previous to their isolation, cases occurred in the houses on each side of them among their playmates, but afterwards no cases occurred in the neighborhood.

The experience of the New York Infant Asylum (*Med. News*, Vol. lxvii, No. 22) illustrates this, as well as the benefit to be derived from immunization by antitoxin. In that institution there occurred 107 cases between September, 1894, and January, 1895, an average of 30 cases each month. In October, bacteriologic examinations of the throats of all the healthy children showed the bacillus present in so large a number, that to isolate them nearly one half of the inmates were quarantined. On January 16, two hundred and twenty-four children were given immunizing doses of antitoxin. During the following month to February 15, only one case occurred.

On that date a second case appeared, and between that and the 27th, five more. On the 27th, antitoxin was administered to two hundred and forty-five children, and no more cases occurred for 31 days. Before isolation and immunization, there occurred 107 cases in 108 days; while afterwards, only five cases in 112 days. In one of the institutions here, several cases of diphtheria occurred one after another in a certain ward. Finally, after five or six cases had occurred, cultures were taken from all the throats, about twenty or thirty, I think—and in four or five were found the germ. These were isolated and injected with antitoxine, the ward disinfected, and no more cases occurred in the institution.

In regard to the time the bacillus may persist after the membrane and all symptoms of the disease have disappeared, Park and Beebe, 1894 (Sternberg), examined 2,566 cultures from the throats of 605 convalescents, and found in 304 the bacillus was absent in three days after the disappearance of the exudate, 176 cases in seven days, 64 in twelve days, 35 in fifteen days, 12 in three weeks, 4 cases in four weeks, and in two cases it persisted for nine weeks.

In my examinations of about 2,500 cultures from about 800 recoveries, I have found it absent as early as the sixth day, and present as late as the eighth week. Dr. O'Malley mentioned a case in which the germ was present for eleven weeks, when the case passed from his observation. A pure culture, taken at the end of the tenth week, injected into a guinea pig, caused its death in thirty-six hours.

The period for which it persists seems to bear no relation to the severity of the attack, the season of prevalence, the age of the patient or his environment; nor does the administration of antitoxin affect it. I have seen the germ present in the throats of mild cases for from three to six weeks, and in severe cases disappear in ten days after the symptoms have entirely abated. To show the average persistence of the germ at different ages for winter and summer, the following is submitted:

	Under 2 years.	2 to 5 years.	5 to 10 years.	10 to 15 years.	15 to 20 years.	Over 20 years.
Winter...	24 days	25 days	23 days	23 days	28 days	21 days
Summer...	25 days	20 days	19 days	13 days	25 days	19 days

Some time ago, I made an investigation to determine if the administration of antitoxin shortened the quarantine, and found that the average period of isolation in cases where antitoxin was used was 24 days, and where it

was not, 25 days, practically no difference. It seems to be present as long in the throats of children living in the country, who are allowed to go about in the fresh air, as in those who are shut up in rooms in the city. I have now under observation two patients living in the country from whose throats the membrane disappeared more than eight weeks ago, but in whom I still find the germ.

In regard to the *pseudo-diphtheria bacillus*, that is an organism we cannot, from a sanitary standpoint, recognize. Cultures are sent to the laboratory from persons, who have diphtheritic symptoms, sufficiently suspicious, to induce the physician to take them, and as it is not possible, by a microscopic examination alone, to differentiate them, all organisms having their characteristics are called diphtheria bacilli, and I think from the history of such cases afterwards that mistakes are not often made. This organism, found by Loeffler, Von Hoffman, Roux and others, is almost identical with the true bacillus, except that when grown upon blood serum they are shorter; but as we also have a short variety of the true bacillus, it is not regarded at all. Just what relation exists between the true and false bacilli has not been determined. Dr. Kinyoun has been conducting experiments at the Marine Hospital Laboratory to determine if, by repeated inoculations, it can be made virulent, but with what success I do not know.

While the *Klebs-Loeffler bacillus* is the great cause, and without it one cannot have diphtheria, yet there is another condition necessary. This we characterize by that indefinite term "susceptibility." What causes this susceptibility, or rather what produces immunity from the disease has not yet been made manifest, and when it has then we will have found the proper means by which this disease can be eradicated. I think the systematic examination of the blood of persons suffering with the disease, of those who have recovered, and of those who have the germ in their throats and yet have no symptoms, will throw much light upon this important subject. Some work has already been done along this line by Morse, Ewing, Engle, Billings, and others.

Susceptibility to this disease is not a family characteristic, although some writers contend that it is. Comparatively few persons in families who have been exposed to the contagion before isolation of the patient contract it. It has been the general impression that the disease prevailed to a greater extent among the poor, badly nourished, and those who live in overcrowded, squalid, damp unsanitary dwell-

ings, without sewerage, etc. But the results of my investigations extending over nearly two years have proven that, in this city at least, such conditions do not influence its prevalence. On the contrary, it seems to be more common among the moderate and well-to-do classes. I find that it more often attacks those who have been bountifully supplied with the necessities of life and many of the luxuries—good dry houses with sanitary plumbing and hygienic surroundings.

Of the cases investigated only 10 per cent. were in the midst of bad surroundings, 2.9 per cent. in overcrowded dwellings, and 16 $\frac{3}{4}$ per cent. among the poor. Why this should be so, I know not, unless it is due to the fact, that those who are not the favorites of fortune, lead lives as a result of their privations, that render them better able to withstand the onslaught of the germ. Their general system is kept in better condition because the food they eat is better suited for sustaining life, without producing disorders of digestion. They are not overclothed and are not compelled to remain indoors, but spend the greater part of their waking hours in the fresh air and sunshine.

That fresh air and sunshine are factors, in decreasing the prevalence of the disease, is shown by the fact that during a period of dry, sunny weather the number of cases reported to the health department is materially decreased, while after damp, cold weather, the number is greatly increased. The children of the wealthier class are reared under more artificial conditions. They are not allowed to go out except in good weather; are often overclothed, especially about the throat, and inhabit rooms that are often overheated, so that when exposed to any sudden change they are prone to suffer more or less from inflammations of the mucous membranes of their throats, thus rendering them more accessible to the entrance of the germ.

As regards race, the *white race* is more susceptible to diphtheria than the colored. During the year 1895-'96 the proportion of our colored population affected with the disease was 4.55 to each 10,000, while among the whites it was 15.25 to each 10,000. And during the year 1896-'97 it was 15.5 for the colored and 25.5 for the white per each 10,000. While the disease is not so prevalent among them, the mortality is higher in the colored race, due probably to their being unable to secure proper nursing and diet. During the past year the colored mortality was 23.3 per cent., and the white 16.1 per cent.

Although no *age* is exempt from it, the dis-

ease more commonly affects children, especially under twelve years of age. During the past two years the ages of those suffering from diphtheria were as follows:

Under 1 year.....	14
Between 1 and 3 years.....	182
3 12	551
12 18	79
18 25	54
Over 25 years.....	66
Total.....	946

It is noticed that those in early life are the greatest sufferers, probably for the reason that being in the formative stage of their existence they are more susceptible, and also because at that age, in their school life and sports, they are brought into more intimate relation than later, and thus the opportunity for acquiring the disease is increased.

As regards *sex*, the disease is slightly more prevalent among females.

The *contagion of diphtheria* is conveyed from one person to another by direct contact. The disease is not given off in the breath except during expulsive efforts at coughing. The affected individual puts his hands to his mouth, gets some of the germ-laden saliva upon them, brings them in contact with the bed or the dress of the attendant, who, unless she changes her garments before leaving the apartment, carries it to other parts of the house, where it may be picked up on the clothing of others and taken into the street. There it may die without doing any harm, or may be carried to some susceptible person, and thus a new focus is formed. Sometimes a child has the germ in its throat several days before symptoms appear and in the meantime attends school sowing the "seeds of the disease." Books and other school articles are the means of spreading it. Some time ago, four children in a school were taken sick with the disease, and upon investigation I found that two of them occupied the same seat—one in the morning and the other in the evening—one sat behind and the fourth across the aisle. A year or two ago, a child attended a certain private school several days before it was discovered that his brother's sickness was diphtheria. In less than a week there were twenty cases among the pupils and the families of the pupils who attended the school.

Symptoms.—As this disease is primarily a local one, the first symptoms are referable to the throat. There the germ finds lodgment, and produces the toxine which, absorbed into the circulation, causes the constitutional dis-

turbance. The period of incubation is short, probably two or three days. In my own cases, if you pardon personalities, just about forty-eight hours after taking the germ into my mouth, I felt the first symptoms of the disease. The general symptoms vary according to its severity, although often what appears to be a mild case, as regards the throat symptoms, may end fatally. I have in mind two children of a family who were attacked with the disease after another had died. When seen, these children seemed perfectly well, complained of no soreness of the throat, and there had been no membrane formed, only catarrhal inflammation apparently. So mild in fact that except for the death of the first child, the physician in attendance would not have believed it to be diphtheria. Yet in less than ten days both died of syncope. In my throat there was never any membrane found. The fauces were congested, the tonsils swollen and turgid. Yet the general symptoms were severe. There was loss of appetite, great pain in back of neck, across the back, in the arms and calves of legs, and a slight soreness in throat. There was great prostration, and the pulse was weak, rapid, and irregular. These two cases illustrate the simple form of the disease as far as the throat symptoms are concerned.

Then there are other cases where there is very little formation of membrane on the tonsils extending to the pillars of the fauces and pharynx. A more severe form is seen where the membrane involves the tonsils, fauces, pharynx, nose, naso-pharynx, and sometimes extending forward on the tongue, roof of the mouth, and cheeks. Sometimes it extends downward into the larynx producing the most dangerous form of the disease. The disease germs sometimes extend downward into the bronchioles and vesicles. Recently a child died from croupous pneumonia at one of the hospitals here and an autopsy performed, cultures being made from the lungs. Instead of finding the diplococcus in as large numbers as was expected, the culture was almost pure of the Klebs Loeffler bacilli.

In those cases where the constitutional disturbance is marked, the onset is gradual. For a day or two there is malaise, and, perhaps, a little tenderness on attempting to swallow. As a rule, the temperature is not high, ranging from 100° to 103°, and, continuing four or five days, drops to normal. As the membrane continues to spread, the constitutional symptoms become more pronounced. There is much prostration, muscular weakness, rapid, weak, irregular pulse and anæmia. In some cases, there

is a discharge of mucus from the mouth and nose, sometimes hemorrhage, and generally the breath of the patient is very fetid. In most cases, the glands about the angles of the jaws and neck are much enlarged. That the membrane has invaded the larynx is indicated by a croupy cough and dyspnoea, becoming more pronounced with the extension of the membrane. The recovery is often very slow, or the patient may die from occlusion of the larynx, paralysis of the heart, nephritis, or bronchopneumonia. Paralysis and nephritis are the most common complications and sequelæ of the disease.

Treatment—In regard to treatment, little need be said, for aside from the administration of antitoxin it is altogether symptomatic. Absolute quiet of the patient in a recumbent position, and an easily digestible diet, are imperative. For the cardiac weakness, give digitalis and strychnin; and for anæmia the best combination is, in my opinion, elix. ferri, quin. et strychn. Stimulants should be used only when needed. Intubation or tracheotomy may be necessary to prevent asphyxia.

Our great standard now is antitoxin, whose property for saving life is simply wonderful. This should be given as early as possible, and in doses large enough to overcome the toxine. It is unnecessary to go into statistics to any great extent, but I will give the results of treatment, with and without it, in this city, during the past two and a half years.

1895-96.

Cases treated with antitoxin.....	174
Cases treated with other methods.....	152
Died after administration of antitoxin.....	23
Died after other methods of treatment.....	53
Mortality with antitoxin.....	13.2 per ct.
Mortality without antitoxin.....	34.9 per ct.

The mortality of those under twelve years of age in the antitoxin class was 16.3 per cent., and in the no antitoxin class 41.5 per cent.

1896-97.

Cases treated with antitoxin, 288; deaths, 21; mortality, 7.3 per cent.
Cases treated without antitoxin, 335; deaths, 89; mortality, 26.6 per cent.
Cases under 12 years of age—first class, 235; mortality, 8.9 per cent.
Cases under 12 years of age—second class, 256; mortality, 33.2 per cent.

During these two years, there were no deaths among 86 persons over 12 years of age treated with antitoxin, while of 113 not so treated 8

succumbed. As time progressed, physicians used this remedy with a more liberal hand, and earlier in the disease, so that during the past seven months the results have been most gratifying. Of 422 cases reported, 211 received antitoxin, 190 did not, and in 21 cases the method of treatment is unknown. Among the antitoxin cases, only 8 died, giving a death-rate of 3.8 per cent., while of those not so treated 65 succumbed, making a mortality rate of 34.2 per cent., which was the average rate for the ten years preceding the use of antitoxin.

The only bad effect that has been produced by this remedy is urticaria.

The examination of the blood of patients treated with antitoxin by Billings showed little diminution of the red cells, as compared with those not so treated. "Six patients who were anæmic when admitted showed a steady rise in the red cells as the disease (treated with antitoxin) progressed." He also found in cases so treated the decrease in hæmoglobin was less marked.

203 East Capitol Street.

DISCUSSION ON DIPHTHERIA.

Early Diagnosis—Compulsory Cultures—Legislation Suggested—Chicago Incubator Plan Advocated.

DR. WM. B. FRENCH said, after defining what conditions he would designate as diphtheria, that all of us conceded the necessity of the earliest possible diagnosis, and the difficulties encountered in some cases of making it clinically. To obviate, as far as possible, overlooking an attack of diphtheria, compulsory cultures should be made, and he urged the Society to inaugurate such legislation as would result in compelling all doctors, and all quacks, to submit cultures for diagnosis in every case of sore-throat. He also advocated the Chicago idea of having incubators in various drug-stores, so that physicians would have as little delay as practicable in starting the growth of their cultures—these cultures to be examined by a neighboring bacteriologist, under the supervision of the health department, at a nominal cost to the city.

TREATMENT OF DIPHTHERIA BY ITS ANTITOXIN.

Antitoxin Treatment—Large Doses—Immunizing Experience—Post-Diphtheritic Paralysis Rarer, and Need for Intubation Less Frequent Now Than Formerly.

DR. S. S. ADAMS was one of the first in this city to use antitoxin, and had had his faith in it strengthened by his increased experience in

its use. The first case in which he administered it died, but he had administered it to a number of severe cases since, and they all recovered. The greater one's experience, the more enthusiastic he becomes. He realizes the necessity of large dosage, and the harmlessness of the remedy.

In its use for immunizing, he had not had as good results in the Children's Hospital as had been reported in similar institutions in other cities. He began December 1st, 1897, to immunize every patient in the hospital, and every one admitted thereafter, regardless of the ailment. For this purpose, from 250 to 500 units, according to the age of the child, were administered. It must, however, be remembered that the immunizing effect of antitoxin is of short duration. Antitoxin not only cures the acute symptoms, but it also prevents the sequelæ. Have you ever noticed the infrequency of "essential" paralysis and "diphtheritic" paralysis in our public services? They were not rare before the use of antitoxine. Again, there is less need for intubation, and the recoveries are more numerous. Antitoxin is no longer in its experimental stage, but must be given as early as possible, and in sufficient dose to secure the best results.

With Antitoxin, Use Quinia and Iron Internally—Bichloride Spray and Liquid Food.

DR. ROBERT REYBURN said that the treatment of diphtheria is, *par excellence*, the administration of the antitoxin serum. Along with this, however, he strongly recommends the administration of appropriate medication to aid in the cure of the patient. There seems to be a too great tendency at the present day to depend entirely upon the antitoxin and intubation, and to neglect all other medication.

His own treatment has been to use the serum, but along with it to give, during the first twenty-four hours of treatment, quinine in full doses; after that, to give tincture of chloride of iron during the entire progress of the disease. Along with this, he uses locally a spray of bichloride of mercury, one to one thousand in strength, dissolved in a solution of peroxide of hydrogen and glycerin. During the past three years he has had no deaths among his own patients since he has pursued this method of treatment. Bichloride of mercury, in solution of one to a thousand, used as a spray, he considers a very powerful aid in the treatment of these cases.

Whilst admitting fully the benefit of treatment by serum in cases of diphtheria, it seems to him very unphilosophical to ignore the

methods of treatment which brought about a cure in many cases of diphtheria treated before the serum was introduced. It must be understood in these cases, that a liberal supply of liquid food must be given, along with small doses of stimulants.

Imaginary Diphtheria—Error of Record in San Francisco Corrected.

DR. L. ELIOT said he had intended to speak at length upon the prophylaxis of diphtheria, but the lateness of the hour would prevent. He would say, however, that the most dangerous kind of diphtheria to a community was the imaginary kind. He then read an extract from the *Pacific Medical Journal*, of December, 1895, in regard to this variety, and stated most emphatically his belief that the secretary who had prepared the article had done so in the goodness of his heart, and with the hope of rendering service to the author whose paper he abstracted. As the paper was read at a public meeting, and the sentiments expressed had never, to his knowledge, been denied, he would read the secretary's abstract:

"A conversational meeting of the San Francisco Microscopical Society was held * * * * * October 16th, * * * * *. The Society was fortunate in having with it M. J. Rosenan, M. D., of the United States Marine Hospital service, Washington, D. C., who has been sent out by the authorities to establish and conduct the quarantine station on Angel Island. * * The subject of Dr. Rosenan's address was 'Immunity and Immunization.' * * * * *

"One of the most valuable discoveries of recent years, at a time when so many thousands are keenly alert to new methods and new theories, is the discovery and successful use of antitoxine in epidemics of diphtheria. During the recent epidemic of that dread disease in Washington, Dr. Rosenan had charge of the diphtheria hospital, and consequently nearly every recorded case came under his professional care or immediate notice. The antitoxine treatment was used in every case, and with most encouraging results. To render the patient immune, or to neutralize the effects of the disease, it is necessary that the case be taken in its early stages, and that it should be free from complications with other or kindred ailments. When treated under such favorable conditions, relief was obtained in nearly every case."

(Signed) WILLIAM E. LOY, Rec. Sec'y.

In referring to this matter, Dr. Eliot expressed his high regard for Dr. Rosenan, and hoped no one would impute unfriendly mo-

tives to him; but at the the same time he would state there was no epidemic of diphtheria, there was no hospital for diphtheria, and the antitoxine treatment was not used in all the cases which did occur.

Confirms Dr. Eliot's Statement.

DR. KINYOUN said he felt certain the report of the San Francisco meeting was incorrect, and that the statements would have been corrected had attention been called to them.

Duration of Antitoxin Immunity—Antiseptic Sprays Unnecessary.

DR. WALSH, in closing discussion, said: *In reply to Dr. Adams*, he was sorry to learn that at the Children's Hospital immunizing doses of antitoxin had failed to be effectual in eradicating diphtheria from the institution, but thought the trouble was in not giving the serum a second or a third time. It has been found that the period for which antitoxin renders a person immune is thirty days, while the bacillus often persists in the throat for six or eight weeks, so that a person to whom antitoxin has been administered could, after the period of invulnerability is past, be subjected to the effect of the toxin. If a second or third dose was given at intervals of thirty days, then the person would be immune until all the bacilli had disappeared.

In answer to Dr. Reyburn, he thought the use of antiseptic sprays unnecessary and useless. Gargles and sprays of all kinds, bichloride of mercury, carbolic acid, and what not, have been used without shortening the time of persistence of the germ one day. If a culture is taken immediately after the application of an antiseptic to the throat, no growth at all would result; but if taken after the interval of an hour or two, a growth of the bacillus would be obtained.

PEDIATRIC ASPECT OF TUBERCULOSIS.*

By ROSA ENGELMANN, M. D., Chicago, Ill.

Professor of Pediatrics, Post-Graduate Medical School; Instructor in Pediatrics, University of Illinois, Medical School; Medical Inspector, Chicago Health Department, etc.

It is next to impossible not to encroach upon the domain of the other speakers of the evening, since the pediatric aspect so nearly includes the entire subject. Infants and children constitute a large horde of the victims, and run the gamut of almost every form of this malady.

* Read in a symposium 1898, before Chicago Academy of Medicine, etc.

Of some manifestations they are almost the exclusive subjects. I need but mention scrofulosis or chronic glandular tuberculosis, coxitis, Pott's disease, primary intestinal tuberculosis, tubercular meningitis, and even solitary tubercle of the brain, spinal cord and spleen.

The excessive mortality in children from this disease is appalling. Before the antitoxin era, the diphtheria ratio headed the list; now a 35 to 48 per cent. tubercular mortality takes precedence. The gastro-intestinal death rate of infants receives the attention of health boards, but compare its yearly 3 per cent. rate with the above mentioned proportion of deaths. Burdon Sanderson says, "That one-third of all the children that die in hospitals die from tuberculosis." Indeed, one-third of all deaths in early years are due to tuberculosis. Simonds states that 35 per cent., or over one-third of infantile mortality in the second year of life, is ascribable to tuberculosis.

Hecker, of Munich, in his statistics of 700 autopsies upon children, discovered 21 per cent. of latent tuberculosis; 1 per cent. of which, was in babes under one year old. Henoch believed, and substantiated by post-mortem findings, that many atrophic sucklings die from latent tuberculosis. This important fact is overlooked since (1) but few nurslings are hospital inmates; (2) our statistics are derived from hospital records.

Biedert states that "the death rate from tuberculosis during the first year is 6.8 per cent., and from the first to the fifth year, 48 per cent."

Because of less poverty and better hygienic environment, America furnishes a lower rate.

The report, published by Holt, from the New York Infant Asylum and Babies Hospital, shows only 8 and 14 per cent. death rates respectively, as compared with the 40 per cent. one by Muller of Munich.

The localization of the lesions has, in part, been mentioned, and will be dwelt upon in extenso by other Fellows of the Academy. Primary pulmonary involvement, in contradistinction to the adult type of disease, is rare in infancy and childhood. Primary glandular and intestinal implication, according to Simonds' statistics and Miller's post-mortem statistics, comprises 92 to 84 per cent. of all cases. Their tabulations in regard to other organs are as follows, with Simonds' first and Miller's last:

Lungs.....	76.2%	Pia mater.....	26.8%
Probably secondary	92. %	" ".....	26.6%
Liver.....	24.7%	Intestines.....	22.7%
" ".....	33. %	" ".....	38. %
Spinal cord.....	20.6%	Kidneys.....	15.6%
" ".....	43.3%	" ".....	23.3%
Pleura.....	10.3%	Bones and joints.....	10.3%
" ".....	6.5%	" ".....	22. %
Brain.....	9. %	Peritoneum.....	7.2%
" ".....	8. %	" ".....	18. %
Male genitals.....	2.1%	Tonsils and omentum	1. %

Maas reports a case of tuberculosis of the tubes and ovaries in a five year old girl, with probable source of infection in the navel. Isambert records a case of pharyngeal tuberculosis in a four and a half year old child.

Kossel's observations in the Institute for Infectious Diseases, in Berlin, demonstrate that 40 per cent. of the one to ten year old patients applying for treatment for diphtheria are suffering from latent tuberculosis, and two-thirds of these cases exhibit enlarged bronchial and mesenteric glands.

Ruge, of Berlin, cites two cases of primary tubercular tonsillitis with secondary tubercular myelitis. He says: "It is most difficult to differentiate it from simple tonsillar hyperplasia."

Heredity is an etiologic factor only in so far as the transmission of lymphatic, immature, embryonic type of tissue predisposes to all kinds of infections, especially the tubercular. Scrofula seems better thus defined than by the term chronic glandular tuberculosis. Since it has been proven that there is a parental seminal, ovarian, and intra uterine transmission of this disease, the question of inheritance therefore absolutely resolves itself into one of direct contagion. The germinative theory has been experimentally proven by such men as Landouzy, Martin, Konperoff, Pernise and Sirena. Birch-Hirschfeld and Schmol were the first to prove its placental origin. Jahni confirmed the presence of tubercle bacilli in the semen of tubercular men, whose testicles were free from these germs. Theobald Smith says: "The tubercle bacillus may pass in semen of the male and infect the ovum directly." Again, "The ovum may be infected by disease of surrounding structures in the female." J. Emmet Holt reports five cases of intra-uterine infection. Demme calls attention to a rare case of pulmonary tuberculosis in a twelve day old babe, doubtless of intra-uterine genesis. Berti reports a similar case at birth.

Post-nasal infection has been known to occur through the milk of a tuberculous nurse. Ritual circumcision is another established communicating agent. The ordinary infectious diseases of childhood add to the tubercular vul-

nerability. Infantile habits, such as creeping, placing articles in the mouth, are an added source of danger. Food, particularly milk, the staple dietary of infancy and childhood, here plays an important rôle. It is a well known fact that the lack of food and of dairy inspection laws, tax laws and improper enforcement of the same, account for the presence of from 30 to 50, to even 70 per cent. of tuberculosis in dairy stock and cattle.

Lastly, household pets, such as dogs and cats, can communicate this dread disease to their little playmates.

To summarize: The points that I emphasize are; (1) frequency of tuberculosis in infancy and childhood; (2) localization pertaining to this period of life; rare localization; (3) etiology, parental, post-natal.

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PROGNOSIS AND TREATMENT OF LATERAL SPINAL CURVATURE.*

By A. R. SHANDS, M. D., Washington, D. C.,

Professor of Orthopedic Surgery, Medical Department of Columbia University, etc.

When one has to examine a case of lateral spinal curvature, he must be prepared to express an opinion as to the prognosis, hence it is very important that one should be thus prepared, for he is sure to be asked, "Will she grow out of it?"

Before this question can be intelligently answered, many conditions must be taken into consideration. If the case be one in which rotation and fixation of vertebrae exist, an unreserved opinion in the negative may at once be given, but if the case be one in whom only lateral deviation exists, or complicated by rotation, that can be corrected by extension, a favorable opinion can be given, provided due care and attention to treatment be given. In no instance can it be said that a patient, with a well marked case of lateral curvature, will, untreated, grow out of the deformity.

Probably the prognosis is less favorable when the deformity is due to rickets than in any other class of cases. This one should readily appreciate when the numerous unfavorable circumstances incident to such cases are considered, the tender age of the patients when the injurious effects of rickets are most active, preclud-

ing any thorough form of treatment and encouraging the rapid development of the deformity. Fortunately, these cases are rare.

Curvatures arising from partial paralysis—anterior polio-myelitis—of the spinal muscles are very unfavorable.

The age of onset is a factor of greatest importance in the prognosis; the later in childhood it is developed, the more favorable the ultimate result.

In considering the clinical history of lateral curvature, it is a well recognized fact that the period of spontaneous arrest is at the cessation of growth.

Sex is an important factor in prognosis; the deformity assumes much more severe and rapid form in girls than in boys, owing to their lack of muscular development and feeble health, often aggravated by disorder of menstruation. Lateral curvature is more common in girls than in boys; from the numerous authorities I have consulted, I find the average proportion is eight girls to one boy. This fact is, to my mind, the strongest argument in favor of gymnastic treatment, to be spoken of at length later.

Condition of general health should always be taken into consideration as a very important factor. Persistent anæmia, chlorosis, disorders of menstruation, all of which are so often found in these poorly developed girls that are victims of lateral curvature, not only aid in the rapid development of the deformity, but prevent, to a great degree, the execution of an active course of treatment for muscular development. The most unfavorable subjects of all are girls in whom ill health is tinged with hysteria. Patients with long, yielding, narrow spines, that can be put into almost any shape, are very unfavorable subjects when the deformity once gets a start.

Occupation is to be considered always. It was stated above that a very small proportion of boys are afflicted with lateral curvature; when it does occur in boys, it is almost always seen in those that have faulty occupations, those that have to carry heavy weights on their backs or shoulders.

The site of the curvature is a matter of importance; those in the lumbar spine being much less favorable. Curvatures with long radii are much more amenable to treatment than those with short; when the radii are short, there will be an early development of compensating curves which adds to the complexity of the case. More attention should be given to the flexibility of the spine than to the amount of the lateral deviation present; a

* Read before the Medical Society of the District of Columbia, April 14th, 1898.

spine in which the deformity will disappear to a marked degree by suspension is favorable for treatment. When rotation exists, as is evidenced by the altered conditions of the ribs and chest, prognosis is *nil* as to much improvement. A checking of the progress of the deformity here is all that can be hoped for, and this only by most vigorous treatment. One cannot be too careful in noting amount of rotation present before giving his opinion as to prognosis. The test should be thorough suspension of the patient to relieve the superincumbent weight and to have the patient assume the "key-note" position; the later test enables one to see how much of the deformity the patient can voluntarily overcome, and will show very marked improvement if the vertebræ are not fixed in their distorted position.

The "key-note" position is as follows: "Patient stands erect and extends the arm corresponding to the conclave side above the head to the extreme limit, while the arm of the convex side is extended to the right angle to the body." This is really a voluntary self-extension; in spines with very well marked curvatures where no rotation exists, almost as much improvement can be produced as by forcible suspension by means of the Sayre apparatus.

This method of examination should not only be the "key-note" to the conditions of the patient's spine, but should serve as the "key-note" to the treatment. How rational it should seem to one that if a patient can voluntarily overcome by muscular action of weak muscles a certain amount of the deformity, how much more should she overcome by developing these weak muscles that are responsible for the condition. If we reflect for a moment what wonderful muscular developments are accomplished by athletes, we should appreciate what should be expected by developing weak muscles.

While it was not intended that this paper should depart from its text—Prognosis and Treatment of Lateral Spinal Curvature—a few words on an etiological factor of such great importance as lack of muscular development surely will not be much out of place, as it is in such close relation to the treatment. The fact that lateral curvature is eight times more common in girls than in boys is very significant that lack of muscular development is by far the most important etiological factor in this deformity. When one considers how very different are the customs, amusements, games, etc., of a boy from those of the average girl, it is readily understood why there is such a difference in their muscular developments. The

nearer a girl approaches a boy in her amusements, the more athletic her games will be and the less likely she will be to have lateral curvature. My observation has led to believe that spinal curvature is confined to city-bred children; I have not seen a case of this deformity in a girl that has been reared in the country where children spend most of their time out of doors; such children almost always adopt amusements of a most decided athletic nature, such as horse-riding, long walks, games of tennis, croquet, etc. In my native section of the country it is exceptional to see a girl that has not learned to row a boat, and I know of no form of athletic exercise that is better calculated to develop spinal muscles than rowing with the oars, in fact this exercise will develop every muscle in the body, the forced expansion of the lungs thereby being a most excellent feature.

It was stated above that the more like a boy a girl is the less likely she is to have spinal curvature; this statement is based on the observation of many cases. It is a well recognized fact, that when girls have brothers near her own age she finds, as a rule, their amusements very congenial, causing them to lead much more of an out door life than they would do otherwise, and as a rule such girls have much better muscular developments than the average girl. In looking over my case book, I find that in thirty cases, with but five exceptions, these patients are girls that either had no brother or none near their own age. Four of my worst cases were cases of a single child of a widowed mother; these children had been kept constantly at school and having their mothers as their playmates.

In a recent issue of *Pediatrics*, March 1st, 1898, there is an excellent editorial on the subject of "Physical training of Children." It sets forth in very forcible language the importance of this subject in our schools. It is with great satisfaction that we note of late years that systems of athletic exercises are being established in the public schools for the development of children's bodies as well as their minds, and if proper attention is given by competent instructors in the schools, it will surely tend to reduce the number of lateral curvature patients. The author of the editorial above referred to quotes from the report of the director of the physical training in the public schools of Washington, D. C., the following significant language: "It is impossible to test the full measure of success or failure of our efforts. It is in the remote future with school days long past that the lasting influence of such work

will be felt by the individual child. That the bodies of our children are better formed, better carried, and more gracefully used there is no doubt. I wish to insist in urging systematic daily medical instruction as a means of improving the physical condition of the child and reducing the possibility of contagion. It needs the critical eye of the medical expert to detect cases of nervous disorders, low nutrition and diseases in their incipient stages."

I wish to add that it is a matter of greatest importance that these children should have their spines subjected to the closest inspection to detect incipient lateral curvature; for in the early recognition of these troubles rest our hopes of curing them, or, at least, of preventing their further development. "As the twig is bent the tree is inclined" is surely a proverb applicable here.

The conclusion that one should reach as to the prognosis is, first: that it depends more upon the amount of rotation present than to the extent of the curvature; secondly, curvatures submitted to treatment early, even when quite pronounced, may be corrected in large majority of cases, provided the patient's health remains good and you can secure their hearty co-operation throughout the entire course of treatment. The treatment to be efficient must be continued for a long time, and the patient must enter into it with heart, soul and body. The trouble being simply a distortion of growth and not a disease that threatens the life of the patient, who becomes accustomed so gradually to her deformity, it is often a difficult matter to get them sufficiently interested in the treatment to carry it out conscientiously. This, of course, is not much the case with older girls.

It is a great mistake to think that little can be done to improve the deformity in these cases; on the contrary, a great deal can be done, if taken in time; and by this, I mean before the spinal column becomes fixed in a distorted position. As long as the spine is *flexible* a great deal can be done in way of improvement; at any rate, the progress of the deformity should be checked, for just as long as the spine is flexible it is going to increase until it becomes fixed; hence one should aim to have it become fixed in best possible position.

The treatment of lateral curvature should be considered from two standpoints, viz.: preventive and curative. Children should be instructed how to carry themselves and to avoid all faulty positions that will throw extra strain on the muscles of one side of the spine to the disadvantage of the other side. Excessive use of the right arm should be avoided; note the

fact that nearly every case of lateral curvature is to the right side. Faulty positions in writing should be corrected, and above all, bad positions in sitting, especially should this be looked after in school children, whose chairs and desks should be so constructed as to give greatest possible support to their spines. Nothing is more prolific in the production of spinal curvature than long piano practicing on an ordinary piano-stool. It seems almost impossible to impress upon the laity the fact that the use of stiffened corsets, by preventing normal action of the spinal muscles, will aid in the production of this deformity.

Faulty positions in children during sleep should be looked after by their parents; children should not be allowed to sleep all of the time on one side; supine position with no pillow is best position for sleeping child. When there is deformity the child should sleep on the side of the concavity, for in this way the muscles of that side are put on a stretch which in turn will correct a certain amount of the convexity on the opposite side.

In all of the old text-books it is stated that the treatment should consist of spinal braces and gymnastic exercises, making the latter secondary. At present all of the authorities are recommending just the opposite; in fact, the most eminent authorities condemn mechanical supports as being positively injurious in the early stage.

Mr. Bernard Roth, of London, in a paper entitled "Cases illustrating the Absurdity of treating Ordinary Lateral Curvature (Scoliosis) by Spinal Supports," read at a recent meeting of the American Orthopedic Association, condemns mechanical supports as being absurd, and in support of his view reported a large number of cases treated exclusively by gymnastic exercises with perfectly satisfactory results. He favors daily exercises of the most vigorous kind for the rapid development of the weak muscles. He never uses spinal supports except in severe cases of infantile paralysis of the erector spinal muscles, where, by no voluntary muscular effort, the patients can place themselves in an improved posture.

Dr. Jacob Teschner, of New York, in an article recently published in "Annals of Surgery," says: "Objection to all supporting appliances is, that each and every one will, to a greater or less extent interfere with the mobility of the spine, and in that manner deprive back, chest and abdominal muscles of that perfect freedom of action which is a necessary and powerful adjunct in the successful treatment of deformity, the aim is and has been to correct

the deviations from the normal by such exercises as will educate the different groups of muscles to sufficient and proper exertion to enable the patient to assume as nearly as possible a normal attitude. This muscular education is dependent upon strength and development, without both of which we must largely fail to obtain that proper and vigorous muscular action upon which any beneficial result from corrective exercises must depend. Therefore, it is necessary and imperative, in all cases which require or are amenable to treatment to attain the highest type of development possible of the entire body, to render the spine mobile in all directions, and also to develop the full strength of each patient. Individual work only can accomplish this end, because it is of the highest importance to carefully watch every movement of the patient, and to immediately correct any and all errors in attitude, deportment and exercise."

One could not possibly give worse advice to a patient with an incipient lateral curvature than to advise her to take a course of exercise in a gymnasium, or institute of physical culture. The surgeon should personally train the patient to do such exercises as are best suited for each individual case, and not trust them to an athlete in a gymnasium who knows nothing of the anatomy of the spine. Improper exercises are just as powerful a factor to do harm in such cases as proper exercises, carefully and systematically given, are to do good. Physical culture institutes are very good to prevent the occurrence of lateral curvature by developing the whole muscular system, but patients with incipient curvatures are not fit subjects for such institutions.

Before beginning a course of treatment one should make very careful notes as to the condition of the patient, for if accurate measurements are not made at that time it is very easy to be deceived as to any improvement. There are many systems of measurements in vogue for this purpose, all of which are more or less accurate, and serve the purpose well, if care is taken in following them out. The writer has found the following method very useful and accurate: First mark with a dermatograph pencil the spinous processes, have the patient assume the key-note position, then stretch a cord from tip of the coccyx to the seventh cervical vertebra, and note the point of greatest variations of the spinous processes from this cord. It is unfair to the patient to take such measurements without having her to assume the best voluntary position; of course notes should be made of both positions. Note the

distance of the angles of the scapulae from this cord; with a lead tape take a tracing of the chest at the point of greatest deformity; this should be done with patient bending forward as far as possible with feet and knees together in a line with the vertical axis of the body.

It is not the intention of the writer to give a detailed account of the exercises which should be used to carry out the method of treatment he has been advocating in this paper, for nothing could be gained by it, as he has nothing original to offer in this line. The literature on this subject is very abundant, from which any one interested in the subject can select such exercises as he thinks best suited for each individual case.

There are one or two points that should receive special attention, as they are applicable to every case that offers anything in the way of improvement—viz: Suspension, thorough self-suspension, such as assuming the key-note position in the most vigorous manner, and forcible suspension by means of the Sayre apparatus. This attitude expands the chest as the working of a pair of bellows, and at the same time stretches the faulty spinal muscles as well as those attached to arms and forearms. This is in reality an exaggeration of Sylvester's method of resuscitation. Faradism and massage are most excellent adjuncts to the gymnastic method of treatment; best to apply them immediately after the exercises.

My method of treating these cases is to drill the patient in the exercises at my office at once on alternate days, and at end of two weeks have them do them every day for a week or ten days.

It is then insisted that the exercises be continued at home, doing them night and morning, having the patients make them a part of their toilet. This should be done for several years in the average case, having patient to call to be examined and remeasured every two or three months, which will enable you to see whether the deformity is increasing or decreasing. I begin my patients with one-pound dumb bells, and have them increase the weight as the muscles are developed, always using the heaviest that do not produce very much fatigue.

This paper would be incomplete without a few words about use of spinal supports. There are cases of weak and painful spines that have to be supported with braces for the comfort of the patient, but these supports should in no way be considered a part of the treatment, and should be worn just as little of the time as possible. There are cases that require braces

for cosmetic effects; these are old cases, with prominent deformities, that have become fixed in their distorted positions. By properly constructed braces, very prominent deformities can be almost entirely disguised.

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MEDICAL JURISPRUDENCE OF INSANITY.*

By EDWARD C. MANN, M. D., F. S. S., New York, N. Y.

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LEGAL RELATIONS OF EPILEPSY.

Not unfrequently the criminal lawyer will become engaged in cases in which epilepsy is the phase of mental disturbance that prompts the criminal act. Upon careful investigation he will generally be able to find epilepsy or insanity existing either in the parents or grandparents of the prisoner. Epilepsy is sufficient alone to produce complete irresponsibility. The mental powers become impaired as the result of epilepsy, and epileptics have the irritable condition of the nervous system produced by this disease. Such persons are prone to be under the dominion of that blind fury generated by the disease, both before, after and between the fits. The mind of epileptics is often so impaired that they are seemingly incapable of controlling the feeblest impulse of passion. Epileptics labor under a disease which *almost invariably impairs the mind*. The brain and nervous system of these persons is apt to be in such a condition that the mental functions of *feeling and knowing, emotion and willing*, are not performed in their regular and usual manner. One or more of the above-named functions is performed in an abnormal manner, or not performed at all. The outbursts of maniacal fury and destruction and homicidal impulses of epileptics are peculiar, in that the duration of the morbid state is short and its cessation sudden. There is no well-educated physician in any country who does not know that the disease of epilepsy produces a modified responsibility in all the subjects of said disease. In a large number of cases the actual or comparative sanity of patients, for considerable intervals of time, the freedom from irascibility, passion or violence, when removed from circumstances calculated

to irritate, render it difficult to place such persons under restraint until an overt act has been committed which necessitates sequestration.

Very often the character of the mental disturbance, the paroxysmal gust of passion, the blind fury without an adequate cause, indicate the presence of *epileptic insanity*, and take the place of epileptic fits. Masked epilepsy is indicated by eccentric acts or a sudden paroxysm of violence without a distinct epileptic seizure.

Unmistakable epileptic fits occur at one period of a patient's life, while at another maniacal symptoms take their place. When mental symptoms appear to take the place of a fit, there is a *transitory epileptic paroxysm*. All acts, soon after epileptic fits, are automatic, and the patient is irresponsible.

Elaborate and complex actions may be performed while a patient is unconscious. In different cases there are different degrees of recollection. As in other forms of insanity, there may be a motive mixed up with an insane condition.

There may be a motive and calculation in some cases, which, in some rare cases, control the misdeeds of epileptics. It is certain that the victim of a disease which takes away from him all control of himself, even when he remains capable of distinguishing between good and evil, cannot be held responsible for acts which he accomplishes without will, and in an automatic, and, therefore, unconscious manner. There is *no epilepsy without unconsciousness*. Epileptic seizures vary in severity from a simple vertigo, scarcely discernible by others, to the most violent convulsive fit, lasting from five minutes to some hours. Anger, fright, or any strong moral emotion, is very liable to produce a paroxysm. Epilepsy tends almost invariably to destroy the natural soundness of mind. A direct, though temporary, effect of the epileptic fit is to leave the mind in a morbidly irritable condition, in which the slightest provocation will derange it entirely. This was precisely the state in which Lucille Yseult Dudley was in when she shot O'Donovan Rossa. She had, within a few days, had nineteen epileptic fits, and the provocation was the news which had arrived from London of the dynamite outrage, of which she imagined Rossa to be the direct instigator. Her criminal act was the result of the morbid irritability which succeeded the epileptic paroxysm. In epileptics, it is not uncommon to observe attacks of mania which are often characterized by a high degree of blind fury and ferocity.

*From advance sheets of the second edition of the work on this subject, by permission of author, to be published about July, 1898.

During the attack the patient is unconscious; so that his acts, whatever may be their nature, cannot make him liable to legal punishment. The passionate impulse to kill, in masked epilepsy, is substituted for ordinary epileptic convulsions. Instead of a convulsion of muscles, the patient is seized with a convulsion of ideas. An epileptic convulsion may not occur, but may be represented by sadness, dejection, by ebullitions of rage and ferocity, a *mania transitoria*, signalized by suicide, homicide, and every modification of blind and destructive impulse. The awakening from epileptic stupor may often resolve itself into an outburst of mental derangement, manifested by extreme vehemence, violence and destructiveness. A crime resulting from epileptic physical phenomena may be accomplished with comparative deliberation, and, as we have before remarked, there may be a motive mixed up with an insane condition. All epileptics are impressionable and excitable, and epileptic attacks are often replaced by irresistible homicidal tendencies.

A patient may recognize his impulses as illegal, but irresistible. In epilepsy, dreamy, mental states and imperative acts appear and disappear with great suddenness. If an epileptic who is a prisoner, having committed some overt act, has premeditated the act, that does not prove that the said prisoner was not insane, or that he could control his insane desire. On the contrary, it might be a still stronger proof of his insanity, that under the circumstances in which he was placed he would do an act from the fearful consequences of which it would be impossible for him to escape. Every day there are examples in insane asylums of insane persons committing crimes that they have premeditated. Premeditation is no proof of a prisoner's sanity. Epileptics who commit overt acts are very frequently, indeed, not in a condition to realize the nature and quality of the act they are doing or to know that the act is wrong. Homicide or assault with intent to kill is not criminal, in our opinion, if the person by whom it was committed is, at the time when he commits it, prevented, by any disease affecting his mind, from controlling his own conduct. If any person, at the time of committing an overt act, is suffering from incapacitating weakness or derangement of mind, produced by disease, then they are insane and irresponsible. It is very seldom that such facts cannot be elicited if they are present, and trials to-day are seldom unfair. Of course there are painful exceptions, where public prejudice virtually tries and decides a case, but this seldom occurs.

It should be distinctly understood that it is a scientific fact that if *an epileptic or a maniac*, subject to delusions, conceives a desire to murder, that he *will be as incapable of resisting that desire* as he has already proved himself incapable of resisting either his fits or his delusions. Delusions of the insane defy the evidence of their own senses, the efforts of their reason, the testimony of their sane neighbors, and the remonstrances of their friends; and their impulses always have, and always will, prove just as irresistible, when confronted with their knowledge of the distinction between right and wrong, and the remonstrances of their consciences. Mental disease does not deprive a man necessarily of the knowledge and consciousness of the law. It is inhuman, unscientific and diametrically opposed to every known psychological law, to only hold the insane man irresponsible for his act if his mind can be shown to be so unconscious of right and wrong that he is incapable of appreciating the law and its requirements.

The law to-day, in New York State at least, insists upon a test of insanity which every physician of experience, or whose opinions are of any value respecting insanity, says it is impossible to apply.

The jury take their oaths that they will try a given case fairly and impartially upon the evidence; that they can do it without bias or prejudice on account of any opinion which they have formed; that they will try the given criminal case without being affected or influenced on account of any circumstances which surround the criminal transaction; that they will try the case according to the sworn testimony of the witnesses, and that they have no opinion of the law which shall govern said case. It is rarely, in a great case, that each of the gentlemen, before entering the jury box, has not read accounts of the affair, from which he has formed some impression in reference to the criminal transaction. Before, however, they enter the jury box, they have to state, on their oath, that they believe they can lay aside their previously formed opinion, that they can enter the jury box, listen to the evidence, and determine the facts anew, according to law and the evidence, without being influenced by any previously formed opinion. This duty devolves upon each jurymen, and it is a duty he owes to the public, to the prisoner, and to his own conscience. The jury should not, on going to the jury room, enter into any hasty or passionate discussion of the questions involved, but coolly and calmly reason one with another, to the end, if possible, that they may bring their minds to a common conclusion, and in so

doing, determine the right in any and every case.

The law in New York, bearing upon the question of insanity, is as follows: "*A person is not excused from criminal liability as an idiot, imbecile, lunatic or insane person, except upon proof, that at the time of committing the alleged criminal act, he was laboring under such a defect of reason as either not to know the nature and quality of the act he was doing, or not to know that the act was wrong.*"

Medically speaking, the law errs in making the test of responsibility the capacity of the person to distinguish between right and wrong at the time of and in respect to the act complained of.

The question, according to the present defective law, is, Was the prisoner, at the time of committing an overt act, in such a state of mind as to know that the deed was unlawful and morally wrong? If he was, then he is responsible. If he was not, then he is not responsible.

The law bearing upon the question of insanity should be codified and amended, and the question should be, Was the prisoner's brain and nervous system in such a condition that the mental functions of feeling and knowing, emotion and willing, could be performed in their regular and usual manner? Was the man capable of avoiding the compulsion of disease to crime? Could he help it? Was he prevented, either by defective mental power or by any disease affecting his mind, from controlling his own conduct? The law should take the broad and liberal ground that where there is loss of self-control, caused by insanity, there is irresponsibility. When this is done, then, and only then, will the law of insanity be brought into reasonable agreement with the knowledge possessed by physicians.

Every case is to be judged, not by any ordinary standard, but by the change in the person himself. Everyone, therefore, becomes the measure of himself, and we are to inquire what the individual was, and what he has become, through disordered conditions of the brain. A medico-legal point of great importance, which cannot be too strongly insisted upon by lawyers in every criminal case where insanity is alleged, is this: That the instability of nerve element implied in heredity, has a positive influence and is a definite power. It is an important point to bring out in some cases, that a man may be in a condition bordering on insanity, and by exciting causes be drifted over to the insanity side.

On the question, of *change of character in a*

person accused of overt acts, and whose insanity is alleged, I would call the attention of the legal profession to the statement in Bucknill's "Essay on Lunacy," page 33: "A change, therefore, with impairment or perturbation of function is the chief test of cerebral mental disease. It may take the same direction as the original character; and persons naturally timid or daring, cautious or reckless, generous or selfish, may have their natural bias of mind quickly developed in excess; or the change may reverse the character, and the patient may exhibit a striking contrast to his former self, or may take some strange direction which no one could guess at beforehand. Nothing can appear more wayward and uncertain than the direction which insanity takes in its development." That the insane act from motives, as the sane do, and that they are moved by fear, revenge, hatred and jealousy, is well illustrated in the case of Renshaw, who, entertaining a feeling of bitterness against Dr. Gray, Superintendent of the Insane Asylum at Utica, armed himself with four pistols, several pounds of cartridges, and a bowie-knife, put on his feet rubber boots, that he might make no noise, and stole noiselessly along the hall to Dr. Gray's office, deliberately discharged his pistol at the doctor's head, the ball penetrating his face, and turned and fled. In a short time he went voluntarily to the jail and delivered himself up. The possession or sight of a deadly weapon often suggests to the insane the commission of an act of violence.

The lawyer should be equally instructed with the physician, as to what sort of an examination his client, if insanity is advanced as a plea in a criminal case, should have, in order that the fact of mental unsoundness may be elicited, if it exists. There are what physicians call premonitory symptoms of mental unsoundness. There is altered health, altered or perverted sensations, in some cases loss of muscular power, sleeplessness very frequently, excessive irritability, alterations of temper, excitability, tendency to laugh or cry, suspiciousness without adequate cause, unreasonable likes and dislikes, sometimes intense egotism, loss of memory, confusion of ideas, inability to think, write, or speak connectedly, alteration in manner of speaking, and other changes in the intellect, emotions, or behavior.

RULES FOR THE EXAMINATION OF PERSONS SUPPOSED TO BE OF UNSOUND MIND.

Every lawyer of experience knows that, in medico-legal trials, the physician who is to examine a person in whose defense the plea of

insanity is to interpose, cannot be too careful in his examination. He should make a written examination, and should, when he gets home, make a copy of it for the lawyer who is to defend the case.

First. He should observe the general appearance and the shape of the head; the complexion and expression of countenance; the conformation of the body; the gait and movements, and the speech.

Second. Ascertain the state of the general health, the appetite and digestion, of the bowels, of the tongue, skin, and pulse. Note especially the presence or absence of febrile symptoms, as an important aid in distinguishing delirium tremens from madness. Ascertain whether there is sadness or excitement, restlessness or stillness, and whether the sleep is sound and continuous or disturbed and broken. In females, the state of the menstrual functions should be inquired into.

Third. The family history should be traced out, in order to ascertain whether there is any hereditary predisposition to insanity, whether any members of the family have been subject to fits, or have betrayed marked eccentricity of behavior.

Fourth. The personal history should be ascertained with equal care. If the mind appears unsound, ascertain whether the unsoundness dates from birth, or from infancy, or from what time. If the unsoundness has supervened later in life, whether it followed any severe bodily illness, accident, mental shock, long continued anxiety of mind, repeated epileptic fits, or course of inebriety.

Fifth. Inquire whether the present state of mind differs materially from that which existed when it was reported to be sound; and whether the feelings, affections, and domestic habits have undergone any marked change.

Sixth. Ascertain whether the existing unsoundness is a first attack, and if so, whether it began with depression or excitement. Did it follow a period of melancholy, pass into mania, and then into slow convalescence? Has the patient suffered from epilepsy? If any signs of general paralysis are present in the speech or gait? Has the patient squandered his money, grown restless and wandered about, exposed his person, committed petty thefts, or had illusions of wealth or grandeur?

Seventh. If the physician desires to test the capacity of the mind, it must be tested by conversation directed to such matters as age, birth place, profession or occupation of parents, number of brothers or sisters and near relations; common events, remote and recent; the year,

the month, or the day of the week; the name of the municipal Mayor, the Governor of the State, and the President; and of persons best known and talked about. The power of performing simple operations in arithmetic, and the knowledge of the value of money, should be tested, and the power of repeating simple forms of words in general use, such as the "Lord's Prayer," etc. In testing the power of attention, merely negative or affirmative answers to leading questions, should be distinguished from such replies as indicate judgment and reflection. If the inquiry relate, not to the capacity of the mind, but to its soundness in other respects, delusions should be sought for by conversation directed to those topics that are most likely to interest and excite the mind. The state of the moral feelings will be tested by conversation directed to relatives and friends. In cases of psycho-sensory insanity, diligent inquiry should be made into the motives which might have led to the commission of the act of which the party was accused.

Eighth. The physician should insist in full opportunity being given him of forming his opinion. He should not usually content himself with a single visit. In cases of great difficulty, he should insist that the party be placed for some time under his observation.

Ninth. When undergoing examination in court, the medical witness is recommended generally to avoid definitions of insanity, on the plea that mental, like bodily, diseases can be described better than defined.

Respecting some *special forms of mental alienation*, we desire to express the decided opinion that kleptomania, erotomania, pyromania, dipsomania, and suicidal and homicidal mania, are all distinct varieties of insanity. *Kleptomania* is most common in women, placed by their wealth beyond the reach of vulgar temptation. Cases of theft are also often met with in epileptics; they care not what the value of the article is. *Erotomania* is an example of one of the strong impulses of our nature that is sometimes placed, by morbid excitement, beyond the restraint of reason and conscience. *Pyromania* is most frequent in young girls subject to menstrual disturbances. *Dipsomania* is a well-recognized form of mental unsoundness, and we would strongly maintain the necessary dependence of suicide on insanity. The majority of cases of *homicidal mania*, in our experience, have been among women, and are the result of grief, anxiety, from uterine disease, at the menstrual period, at the climacteric period, and often at delivery, especially when complicated with seduction and dejection.

Women at these times are in a peculiarly nervous state, not unfrequently, I am led to believe, accompanied by impulses to crime, and we do not consider them as responsible for overt acts committed at such times, especially when an overt act is opposed to the whole previous character of the woman.

ASEPTIC REQUIREMENTS OF THE LYING-IN PERIOD BEFORE AND AFTER PARTURITION.*

By GEORGE BAYLES, M. D., Orange, N. J.

The obligation that rests upon me this evening is to obey the Executive Committee and take some special part in the discussion of the report of the "Committee on Obstetrics."

The committee has asked me to consider the subject of the *Aseptic Requirements of the Lying-in Period Before and After Parturition*.

In strictly normal confinements, I have never felt it incumbent upon me to demand much, if any greater attention to technical aseptic measures than is included in the observance of scrupulous personal cleanliness, and the quick removal of all emanations from the body of the patient that would speedily become foul and septic upon exposure to the air.

In all cases of dystocia, the practitioner's minor rule is subject to a variety of modifications to suit the special circumstances.

To lay stress, however, as some obstetricians do, upon the need of elaborate detail in aseptic routine of clinical service is to inculcate a principle not established as absolutely needful if experience and long observation can be relied upon. It should be remembered that the accoucheur is dealing with a natural function, and not a phase of disease, in all natural and regular labors.

Nature's methods always include a system (of a spontaneous nature) not only of instant and rapid repair after waste, but also of disinfection after infection, and it is always easier to arrest the operation of this benign system, by meddlesome interference, than to insure unqualified good by any elaborate sanitary system of our own devising—never losing sight of the necessity of perfect cleanliness. We will not the better assist nature to preserve our patient free from infecting germs by any course of clinical disinfection begun before labor and continued long after delivery.

That would be my general answer to the question of technical, scientific, and elaborate professional aseptic attention during the obstetrical period in all truly normal cases.

With clothing and bedding clean; with the body as clean as the usual hygienic ablutions will make it; with the bowels thoroughly evacuated, and the rectal segment finally cleansed by thorough detergent enemata, the patient will be ready.

Except in cases of hypersecretion from the walls of the vagina, there is no need to douche and specially cleanse that passage. Instant attention to the cleansing of the eyes of the new-born infant, at the first moment such a thing is possible, secures immunity from disease from acrid, irritating fluids of those delicate organs.

In the lochia, resides all the danger to the parturient woman, and that is not serious, if particular care is given to the frequent removal of all that issues from the lips of the vulva, and the cleansing of the external genitalia.

Concerning the lochia, there are some points of interest relating chiefly to the physiology of that function and of the puerperal state throughout.

The puerperal state embraces the time between delivery of the placenta and the return of the menses—about six weeks. During this time, the woman is extremely sensitive to all morbid influences. As illustrative, we meet the special diseases called puerperal that are so liable to occur at this period.

It will not do to include the whole period of pregnancy in the puerperal state, as some wish to do, because puerperal diseases are extremely rare in the pregnant woman, even in the midst of an infective focus or district. Non-pregnant menstruating women exposed to contagion are more liable than pregnant women to these special so-called puerperal maladies. Indeed, menstruation has been compared to a little abortion.

Nor is it necessary to prolong the puerperal state till the close of lactation. I should say—

- 1st. Pregnancy.
- 2d. Labor.
- 3d. The true puerperal state.

Four phenomena may occur in the puerperal state—

- 1st. The lochia.
- 2d. The after pain.

3d. The chill, followed by a brief rise of temperature.

4th. The absorption of hypertrophied uterine tissue, or uterine involution.

Now, concerning the lochia and its charac-

* Read before the Orange (N. J.) Mountain Medical Society, April 8th, 1898.

teristic dangers: Beside the usual microscopic characteristics of the lochia we find in the early days bacteria and mono-cellular microbes; and, if there is a purulent condition in the course of the evacuation, we may almost always discover micrococci arranged in pairs. If the woman's temperature be high, the micrococci are found arranged in the form of a chain of cells, like the heads of a rosary, which, according to Pasteur, is the special form for puerperal fever.

Robin states that the lochial discharge never contains true pus, but only a pseudo-pus of a stale odor, and alkaline reaction. This distinction is fanciful and does not accord with the expressed statement of Doléris.

In 1860, Pajot read a paper in the *Académie* wherein he proved that pus cells were present in the blood which flows during the few moments immediately following delivery. Every six hours he found the number of the leucocytes increased. All these elements are furnished chiefly by the placental site, which should be considered as a traumatic wound.

We may assume, with regard to the so-called "milky" discharge, which sometimes terminates the lochial evacuation, that it is a *physiological* purulent excretion, and in so terming it not, make a statement contradictory in terms. That it is a local outflow, with purulent features, no physiologist will deny. That it is innocuous when met and mingled with ordinary anti-parasitic solutions, and especially with washes and injections of dilute carbolic acid—all, I presume, will admit. Schröder has found in the lochia the *trichomonas vaginalis*, and avers that it can always be found.

We must consider the lochia as the external manifestation of the phenomena occurring within the genital organs; in other words, of the process of involution. It is physiological, as the lochia represents the *debris* to be thrown off after absorption has done all it can or all it should. Its degenerative changes are rapid; it already has a stale odor, bordering upon the fetid, from the moment it is elaborated and extended to the moment it is released from the portal of the external vaginal orifice. Still this is a true physiological process, that is hardly capable of injuring the patient as a rapidly eliminated pus, or discharge of a purulent type, will seldom infect by absorption or inoculation.

But the sanitary washes, and antiseptic douches, if ever required in normal child-bed, are required in this stage, as a slight but efficient precaution against a possible infection from some active pathological principle that may reside in the outgoing lochia when passing over a thinned or abraded surface.

Some solution of continuity in the mucous surfaces of the vaginal walls might make the tissues abnormally receptive. This gives no sanction for industrious douchings and ablutions with anti-microbial solutions so often performed by the highly trained nurse, and indeed so often enjoined by the high specialist in the ranks of the accoucheurs of the profession.

A common-sense moderation, therefore, almost wholly represses a meddlesome cleansing and disinfecting of the parts to be subjected to the awful strain of parturient pains, with advancing fetus; and is content with the most gentle and conservative sanitary attention, after delivery, consistent with real cleanliness, and security against the admission of pernicious germs from without.

INGRAVESCENT APOPLEXY, WITH REPORT OF A CASE.*

By LANDON B. EDWARDS, M. D., Richmond, Va.,

Professor of Practice of Medicine, University College of Medicine; One of the Physicians to Virginia Hospital, Richmond, etc.

About midday of December 6, 1897, I was called to "The Jefferson" to attend Mr. G. He was of German birth, but had resided in New York city for years. Age, 55 years; height, 5 feet, 9 inches; weight, 248 pounds; married over twenty years; cotton broker; general health good, except obesity, until recently. While a free liver, there was no evidence of dissipated habits nor history of specific taint. His father and a brother each at about 50 years of age died of apoplexy; some other paternal kinsfolks also had "paralytic strokes."

During the past year or two, Mr. G. had been very busy and prosperous, but at the expense of much mental and nervous tension. A few weeks ago, he had some dizzy spells and numb sensations which alarmed him, and led his eminent physicians (Drs. Charles Phelps and Ed. G. Janeway) to advise a trip for diversion and to take walking outdoor exercise.

Accompanied by his wife, he came to Richmond. In a day or so they went to Old Point, where he undertook a walk of about a mile up the beach; but his "breath got so short," that he had to be assisted to his hotel. On December 5, they returned to "The Jefferson" and occupied a suite of rooms.

A night's rest refreshed him. He enjoyed breakfast; his bowels were moved; he was

* Read before the Richmond Academy of Medicine and Surgery, March 8, 1898.

feeling better than at any time since leaving New York; and had arranged for a drive with his wife.

As he was leaving his dressing-room, he recognized a strange numb sensation creeping up the left extremities from the foot and hand, accompanied with violent forward jerks of the left leg. Without conscious sense of dizziness, there was yet a disposition to reel to the right. With an increasing jerky, unsteady left leg step, he walked through his room to the open door of his wife's apartment. She met him in time to conduct him to a large easy chair, in which he was reclined, and a messenger hurried for me.

I found Mr. G. reclining at full length in the chair, unable to move, though thoroughly conscious. He had neither pain, headache, dizziness, nor confusion of ideas. His conversational powers were unaffected; his memory perfect, and reason good. He told me of the deaths of his father and a brother within a few hours after the beginning of attacks such as he was suffering. He recalled dates connected with his trip, and the order of development of symptoms of his present illness.

The patient's left arm was motionless; thumb drawn into the palm of the hand, and his fingers lightly closed upon it; but he could not extend his fingers nor materially lift the arm. In this left upper extremity he recognized both a numb and a tingling sensation—especially about the fingers; but sensation to cold or needle sticks was apparently normal.

Reclining at full length, with head on back of the chair and feet on the floor, at intervals of a few seconds the whole left lower extremity was uncontrollably jerked violently forward several inches, his heel falling back on the floor with a thud. He could not rise nor stand when lifted. There was no apparent impairment of sensation in the left thigh, leg or foot.

Beyond the general impression of nervous shock, there was no perceptible impairment of motion or sensation of the right extremities.

The patient's face was not unnaturally flushed. There was no retraction of the head, which he could turn according to volition. But there was a vague sense of fullness or constriction in the occipital region—about base of brain. His tongue was freely movable from side to side, but was tremulous when protruded, and slightly incined to the right. Pupils about normal—the left perhaps responding to the influence of light a little more readily than the right.

No diplopia. No dysphonia. No dysphagia. No vomiting, nor retching, nor nausea. There

was natural nervous agitation on recognizing himself paralyzed.

Respiratory centres or tracts not apparently involved. Auscultation disclosed neither endo-nor pericardial abnormality. Pulse was quickened, but neither tense nor bounding. Temperature (sublingual), scarcely 98° F.

His clothes were removed and he was placed in bed, as carefully as his unusual weight would permit four or five strong hotel waiter boys to do it, with head well elevated on pillows.

Aconitia, 1-120 gr., was administered hypodermically. Ice applied to occipital region was unpleasant, and removed. Warmth applied to extremities.

The convulsive jerking of the left lower extremity continued unabated for half an hour after the patient was put abed. Then it gradually lessened, but without improvement in the motor paralysis, except that, at 3 P. M., the thumb and fingers had become relaxed. Then he felt a little sleepy, but was perfectly rational, and responded promptly to questions. But the limp paralysis of his left extremities was more profound. While recognizing filling up of the bladder, he could not evacuate it. A soft catheter drew off about a pint of urine. An enema of water and glycerine, given an hour before, had not acted. Another enema of soap and water and glycerine was tried, but without effect. An hour or so later, stupor was changing to coma, and this latter so gradually developed that it is hard to say when it became pronounced, for it was until after 6 P. M. that he could be aroused sufficiently to mumble answers to questions. A drop or two of croton oil on his tongue secured no alvine response. Indeed, the bowels were completely paralyzed as to sensation and movement. But the kidneys were acting freely, though the bladder sphincter was paralyzed—requiring the use of the catheter several times. The urine presented nothing abnormal, except its large quantity—about three and a half pints drawn off between 3 P. M. and 11 P. M., explainable by retention of the enemata. Stertor set in about 9 P. M. Cheyne-Stokes respiration began about 10 P. M., which became more and more pronounced, and he died about three hours later. His heart beat continued a minute or so after respiration ceased. Artificial respiration was undertaken, but without benefit. Temperature since about 10 P. M. (when it was about normal) had risen to above 101° F., and gradually increased for a quarter of an hour after death.

The progressive character of the apoplectic

developments was recognized within an hour after the attack began, the diagnosis of progressive or "ingravescent apoplexy" announced, and his physician, Dr. Charles Phelps, telegraphed to come immediately.

About 3 P. M., Dr. Charles M. Edwards, with a well trained nurse, was placed in constant charge of the sick room between my own numerous visits.

We have long known that the brain is more liable to hemorrhage than any other organ of the body, except the spleen. So usual is it that the hemorrhage emanates from the lenticulo striate artery that Charcot spoke of this as "the artery of cerebral hemorrhage." But it is evident that neither of these parts were primarily affected in the case reported, if the observation of some experimenters be confirmed. Hale, White, Bourneville, and others believe that the striata influence temperature. They report cases showing marked elevation of temperature when the striate bodies are the seat of lesion. But in the instance under discussion the temperature was normal or subnormal. Likewise, Gowers and others report cases where hemorrhage in the lenticula either caused no paralysis or paresis of articulation, but speech was unaffected in our case. The functions of the external capsule, extreme capsule, claustrum and amygdala, according to Mills, are practically unknown.

But while it is difficult to exactly locate the primary intra-cerebral hemorrhage in the case reported, the rapid train of events warrants us in believing that it was near the lateral ventricle.

To the form of intra cerebral hemorrhage, manifest in the case reported, the term "ingravescent apoplexy," or "progressive cerebral hemorrhage," was originally applied by Abercrombie. Such cases are of rare enough occurrence to justify the record of each one. The case reported is only the third which has come under my observation.

In ingravescent apoplexy, there is a slowly progressive loss of consciousness, due to gradual leakage of blood from a ruptured cerebral vessel, with ultimate inundations of the ventricles. According to Charcot, the striatum, thalamus, internal capsule, and the narrow band of gray substance in the external capsule, called the claustrum, are the most frequent seats of the primary hemorrhage.

Hare, too, narrowly limits the location of the hemorrhage to the knee of the internal capsule; for there are numerous cases where neither "headache, dizziness, vertigo and vomiting" form prominent symptoms. In fact, in neither

of three cases observed by myself has such a train of circumstances occurred.

Musser also too restrictedly applies the term to cases in which "there is an apparently mild seizure, with rapid return of consciousness and power, except, perhaps, of speech; but in a few days the symptoms become worse, and the patient dies comatose."

Dana states that its special characteristics "are the onset of a severe hemiplegia, *without* loss of consciousness, its progressive character and fatal termination." According to him, the hemorrhage "involves primarily the white matter *just behind* the outer segment of the lenticular nucleus. It cleaves its way forward into the external capsule, and extends backward into the internal capsule at its posterior part, and then breaks into the lateral ventricle." The vessel affected in such a case is a posterior branch of the lenticular artery. His definition would be satisfactory did he simply instance a case to illustrate the general features of progressive cerebral hemorrhage.

Gowers affirms that ingravescent apoplexy is often due to "rupture of the artery that passes outside the corpus striatum; or it may occur from rupture of a vein (as in traumatic hemorrhage); the pressure in the vein being low, the blood escapes slowly; or it may result from rupture of a surface aneurism into the brain substance—the membranes being thickened and resistant."

It is of *diagnostic importance* to remember that an *embolus usually lodges in the left middle cerebral artery* in the fissure of Sylvius. As collateral circulation is not established in the parts beyond, death is the usual result; if not death, a hopeless *right hemiplegia* is the consequence. Cerebral hemorrhage, on the other hand, occurs about equally on either side; and when we have *left hemiplegia*, we know we have not embolism in its usual territory.

Thrombosis generally has marked prodromata "in the shape of slight seizures, quickly recovered from." It is attended usually by other evidences of atheroma of the blood vessels and weak heart's action.

Acute ascending (or Landry's) *paralysis* commences in both legs, ascends to the muscles of the trunk, arms, neck, diaphragm and pharynx, and exempts the sphincters. It usually proves fatal in a few days.

Primary ventricular hemorrhage, when limited to one lateral ventricle, may not at first be attended by loss of consciousness. Monoplegia or hemiplegia, according to Mills, may be present. Dazing or mental confusion, dulness and dizziness are the earliest symptoms. But

in a short time the hemorrhage passes into the lateral ventricles, then into the third and along the channel of the iter to the fourth ventricle, when the symptoms of an extensive apoplexy will appear.

As to treatment, very little can be done with the hope of preventing the hemorrhage from finally rupturing into and inundating the lateral ventricles. The principle of treatment consists in absolute rest and reduction of blood pressure, so as to check or stop the bleeding before it floods the ventricles. Place the patient in a horizontal position, with the head well raised. A purgative action with croton oil should be secured from bowels, if possible. Soap and water enemata are helpful. While counter irritation is applied to nape of neck, ice bags may be used upon the scalp. Ligation of the common carotid artery has been advocated. If pulse continues hard and bounding after venesection and purgation, aconitia or a drop dose of tincture of aconite every thirty or forty-five minutes may be given until it reduces the pulse.

English Practitioners.

According to the returns of 1897, there are 21,481 practitioners in *England*, of whom 6,081 are in London; 1,081 in Wales; 3,412 in Scotland; 2,615 in Ireland; 3,770 resident abroad; 2,521 in naval, military and Indian medical services (not otherwise enumerated). Total, 34,003 throughout the British Empire. During the previous year, there was a total of 34,284 in the same Empire.

Fatal Hemorrhage After Tooth Extraction.

La Med. Moderne, Sept. 12, 1897, (according to *Times and Register*, Dec. 4, 1897,) reports case of man of hæmorrhagic diathesis whose gingival bleeding after tooth extraction proved fatal on the fifth day. The hemorrhage at first was temporarily arrested with the thermo cautery. But later, hot water, turpentine, antipyrin, ergot, compression, artificial serum, etc., were tried in vain. It is recommended in all such cases that the alveolus be filled with plaster of Paris, and held in position until it sets.

Epidemic Cerebro-Spinal Meningitis.

Succeeding attacks of influenza, pneumonia, etc., which are widespread in this country, we are hearing more and more of the development of epidemics of cerebro-spinal meningitis. The relationship of this form of meningitis to epidemics of pneumonia, especially, should not be forgotten.

Correspondence.

Lard an Antidote for Strychnia.

Mr. Editor.—I wish to give the results of a series of experiments made with the sulphate of strychnia upon the lower animals, and to suggest an antidote for the same.

The way my attention was first called to this treatment was as follows: A very valuable dog accidentally ate some strychnia placed upon a piece of meat for other purposes, and when found was in the agonies of death, it seemed. Where he had been lying on the ground, he had (from convulsions), scratched a hole larger than he was; he must have eaten the strychnia several hours ahead of the time he was found. He was so very near dead that I thought it useless to attempt to do anything; but one of the employees on my place, to be doing something, gave him lard—I guess about four ounces—as near as I can judge from what he told me. In less than five hours, the dog was up running about, and the next day seemed as well as ever. Then I commenced my investigations or experiments.

I took a full grown dog and gave him three grains of the sulphate of strychnia and waited till the spasms were well advanced, which was in about 28 minutes; waited 48 minutes and gave six ounces of lard. In two and a half hours he was up, though for two days was very stiff and sore.

Three days thereafter, I gave the same dog four grains of sulphate of strychnia, but the convulsions were not well advanced until about 35 minutes. I waited an hour before I gave the lard, six ounces, and had to repeat it in an hour. In 35 minutes from the second dose he was up. This is the only instance in which I used it on the same animal the second time.

This, the last dog experimented upon, was given four grains of the sulphate of strychnia. I waited until his legs were fixed and stiff, and had to force his jaws open to pour the lard down him; I had to wrap him in warm cloths, and keep warm water applied to the surface to retain normal temperature. I gave him 18 ounces of lard and kept him warm, and in 12 hours he was up, though he would not eat until the next day.

I next gave a hen one fourth grain of strychnia sulphate, but the only effect it had was to make her drunk. Gave one teaspoonful of melted lard, and the next morning she was going about, though not eating. I had about the same experience with two other hens.

I next tried one-fourth grain on a crow, and in twenty-four hours it flew away, after using the lard.

I next tried it on four eight-months old pigs; I lost the first two, but gave 12 ounces, to the last two instead of six ounces, and they both got well. I only gave two grains of strychnia sulphate to each hog.

I then gave an eleven-months old calf six grains of strychnia sulphate, and with fifteen ounces of lard had good results in six hours, though I did not let the convulsions become very marked before I gave the lard, as it was a very valuable calf, and I could not well afford to lose it; but with the next calf I gave a good test.

The next was a six-months old calf, to which I gave five grains of strychnia sulphate. In 40 minutes, the convulsions were well marked, I then gave 15 ounces of lard, but in an hour had to give seven ounces more. Made a good recovery.

Now, Mr. Editor, I have tried to be very brief, and have sacrificed many points and much grammar for the sake of brevity; but I did wish to let these little experiments be known, and let them be carried out further, if deemed worthy; for it does seem to me that we have a safe, sure and simple antidote for strychnia in lard.

Respectfully,

W. D. TURNER, M. D.

Fergusson's Wharf, Va., March 28, 1898.

It is Remarkable

How quickly and thoroughly gripe is completely cured by "tongaline liquid," in teaspoonful doses with hot water, several times a day. Tongaline and quinia tablets may be used instead where it may seem preferable to use the medicine in such form. Only the purest of salicylic acid is used in the preparation of tongaline.

Imperial Granum

Deserves the patronage of the profession. It is a most excellent infants' food, and is serviceable also in the feeding of convalescents. Furthermore, all of its advertisements are thoroughly ethical. Samples of this celebrated food and of the Nursing World Clinical Records, charges prepaid, can be obtained, on application to Messrs. John Carle & Son, 153 Water St., New York, N. Y.

Analyses, Selections, etc.

Production of Plasmatic Cell Juice—Experiments in Immunization and Clinical Treatment with the Plasmatic Cell Juices of Bacteria.

Both of these valuable papers—the former by Prof. Hans Buchner; the latter by Dr. Martin Hahn—(according to *Therapeutische Monatshefte*, January, 1898,) appear in the *Münchener Medicinische Wochenschrift*, 1897, No. 48. Prof. Buchner reports further on his method of obtaining the plasmatic cell contents without recourse to chemical action by the mechanical trituration of the moist germ mass followed by expression of the magma thus obtained in a hydraulic press at 400 to 1500 atmospheres. This method was first applied to yeast cells. He thus obtained a clear yellow, slightly opalescent liquid, possessing a very considerable proportion of albumin. This liquid was shown by E. Buchner to be capable of producing genuine alcoholic fermentation in the absence and without the co operation of any living organisms whatsoever. The real depository of the fermentative action is, therefore, a peculiar enzyme-like substance, which is also capable of acting independently of the living cell, and which received the name *zymæ*. In moist condition, the substance readily undergoes alteration; the fermentative properties also disappear spontaneously on somewhat prolonged storage, and this disappearance has probably some connection with the existence of powerful digestive enzymes observed by Dr. Hahn in the expressed juices—these enzymes giving rise to a species of auto-digestion. On the other hand, dry zymase is permanent.

The next step was naturally the production by the same method of the expressed juices of pathogenic bacteria, with a view to studying their specific properties. The manufacture of these bodies, to which Buchner gives the name *plasmins*, presupposes the dispelling of technical and biological difficulties. This task was assumed by Dr. Hahn, and the second paper mentioned above contains his results.

He experimented with three types of pathogenic bacteria: 1, the cholera or typhus-bacilli, which, in guinea-pigs, produce only acute and local infection; 2, anthrax-bacilli or staphylococci, which give rise to acute, general infection; and 3, tubercle-bacilli, which provoke chronic general infection.

The juice obtained by expressing cholera-bacilli (cholera-plasmin) is strongly albuminous, the albumin behaving like a nucleo-albumin.

To guinea-pigs, it is toxic in a very limited degree, the pigs being killed only by larger doses; the local action consists in an inflammatory infiltration. It is easy to immunize guinea-pigs, with the aid of the *cholera-plasmin*, against peritoneal infection with living cholera bacteria, either by repeated small doses or by larger doses given at one time. This immunization is strictly specific, and persists for three to four months. The destruction of the cholera vibrios in the organism of the animals immunized with the expressed juice proceeds amid the symptoms observed by Pfeiffer; and yet not only the exudate, but also the blood serum of these animals, possessed specific agglutinating properties; very similar to the foregoing were the results with the typhoplasmin.

Hahn does not believe that there is any field for the therapeutic use of *cholera-plasmin* with human beings. At the most, it could be used only for prophylactic injections in the sense of Haefkine's experiments.

The *typhoplasmin*, on the other hand, could be used for therapeutic as well as immunizing purposes; nevertheless, it seems questionable whether immunity against peritoneal infection is identical with that against an intestinal disorder.

The experiments with the expressed juices of anthrax-bacilli and staphylococci have shown that it will scarcely be possible to achieve, with their aid, a sure immunization against general infection. Though the animals treated succumbed somewhat later than the control animals, this fact could be explained by the elevation of bactericidal properties due to hyperleucocytosis.

With the expressed juices of tubercle-bacilli (which give promise of practical results), Dr. Hahn made his experiments six months before the appearance of Koch's publication. These experiments have not yet been concluded, and require to be supplemented by clinical experiments on human beings. The *tuberculo-plasmin* is a clear, amber-yellow liquid, containing much coagulable albumin; decomposes hydrogen peroxide (in contradistinction to Koch's "new tuberculin"); and may be stored for a considerable time in an ice-chest, without the development of germs, by the addition of 20 per cent. glycerin and 5 per cent. common salt. With this preparation Hahn treated a number of guinea-pigs. Two weeks after inoculation, he began injecting very small, gradually-augmented doses, which produced moderate, but distinct symptoms of fever, the injections being prolonged for months. Of the seventeen

guinea-pigs thus treated, three died before there was any possibility of a curative action; five others succumbed, in common with the controlled animals; but with four other guinea pigs there was visible, despite the fact that death was not prevented, an anatomically lesser distribution, or a re-active modification in the vicinity of the tubercle. The remaining five animals have thus far survived the control pigs one and a half to two months. Thus, almost one-third of the series were preserved; and in view of the inborn susceptibility of guinea-pigs to the tubercle-bacillus, this may be considered a not unfavorable result.

Investigations with the human subject would seem in order; especially as clinical tests thus far made have demonstrated the harmlessness of the remedy in human therapy, inasmuch as the patients are commonly presented for treatment in an advanced stage, and are complicated by secondary infections; and since it is not possible to inject into a human being a quantity proportionate to that given the test animal. But, on the other hand, some benefit would be derived from the non-specific power of the *tuberculo-plasmin* to produce hyperleucocytosis, whose favorable influence on experimental infections has been repeatedly emphasized.

Veratrum Viride Locally for Erysipelas, Fever Blisters, Boils, Felons, etc.

Dr. Wilson A. Smith, Chicago, calls attention (*Med. Visitor*, April, 1898,) to the efficacy of *veratrum viride* when applied locally in *erysipelas*. Dr. F.-J. Boutin (*Med. Arena*, March, 1898,) twelve years ago freely applied *veratrum viride* with two parts of water to a swollen (*erysipelas*) face. The relief from pain was marked, and the improvement continuous. Since then he has seen nothing else give the relief that can be obtained from a non-alcoholic lotion of *veratrum viride*. In case of *fever blister* (or "cold sores") of the lips, which ordinarily last a week or more, a few applications of *veratrum viride* lotion cures usually in twenty-four hours. He now uses a fluid extract, as it requires no dilution to avoid the irritating effects of alcohol, as does the tincture. It must be used early. The same benefit results from its application to inflamed pimples and minute abscesses about the face. Boils treated early can often be aborted by *veratrum* locally, as above. He has seen several instances of "felons" cured in a day or so by the same application. Keep the inflamed finger constantly wet with the fluid extract. It relieves the local fever and has a soothing and beneficial effect in nearly all conditions where there is a local external inflammation.

Eucaine Hydrochlorate A. and B.

Though these local anæsthetic agents have been before the profession several years, they do not seem to have been studied or much prescribed in some sections of the country. Compared with cocaine, in most particulars, eucaine is its superior. To offset the statements at first made as to the relative toxic properties of the two, the investigations of Professors Liebreich, of Berlin, Charteris, of Glasgow, and Scognamiglio, of Naples, show that *eucaine—A* is far less toxic; while, according to the investigations of Dr. Vinci, of the Berlin Bacteriological Institute (which have been confirmed by Prof. Langgaard), *eucaine—B* is five times less toxic than cocaine. Among the many well known American surgeons who have used and spoken favorably of *eucaine—B* are Professors W. W. Keen, J. Chalmers Da Costa, and Brinton. One of the causes, perhaps, of the adverse reports as to the irritative effects of eucaine is the use of too large doses. For ophthalmological purposes—especially about the conjunctiva—it appears that the fresh *two per cent. solution* of eucaine—B has given excellent results—comparing most favorably with cocaine. Professors Schweigger and Silex, of University Eye Clinic of Berlin, speak of it in glowing terms. Last summer, Mr. F. C. Wallis reported the results of his experience with it (*St. Bartholomew Hosp. Jour.*), as most satisfactory." He used a four per cent. solution without ever seeing any toxic effect, except in one doubtful case. This percentage is strong enough to produce absolute local anæsthesia for any small operation. Eucaine is soluble [as well as sterilized] in hot or boiling water, but only sparingly so in cold water. It is well to prepare a fresh solution after three days, as the solution loses some of its anæsthetic properties if kept longer. Of this solution, a drachm and a half is the average hypodermic dose. If the operation is prolonged, two or three times as much may be used without harm. The first injection of about ten minims is made *into* the epidermis; in three or four seconds, the needle is pushed on into the subcutaneous tissue and in the line of the proposed incision. When enough has been injected for the length of the incision, the knife may be used *immediately*. Generally, the time occupied between the first prick of the needle and the incision is about a minute. The first injection of eucaine causes some pain beyond the prick of the needle for two or three seconds—due to the distension of the tissues by the fluid. In these cases, the first injection should not consist of more than five

or six minims. If the operation is of some length, it is advisable to have the patient prepared for general anæsthesia, as patients sometimes lose all nerve control when it is hopeless to try to do anything with eucaine. There are rarely any after effects to record. About 20 or 25 minutes is about as long as one can count on the anæsthesia lasting. Eucaine is cheaper than cocaine, and, considering the drug all round, it has a great deal to recommend it.

Koplik's Diagnostic Sign of Measles

Dr. Henry Koplik, New York, described (*Arch. Pediat.*, Dec., 1896,) a hitherto unobserved and pathognomonic appearance of the mucous membrane lining the cheeks and upper and lower lips which marks the invasion of measles. An eruption of small irregular bright-red spots on this mucous membrane occurs fully 24 to 72 hours in advance of the morbillous exanthem. In strong daylight in the centre of each spot, we see a most minute bluish white speck, which is absolutely pathognomonic of beginning measles, and is not met with elsewhere. Each bluish white speck spreads and reaches its height just as the skin eruption appears and is spreading; it then fades. Thus we have a sort of cycle. These specks are sometimes so delicate that they can be seen only in a strong window light—daylight. Their background is the irregular red spots referred to, which many have recognized. The specks cannot be mistaken for sprue, for they are not so deeply white, nor are they as large as sprue spots. Sometimes we must evert the mucous membrane of the cheeks and look sharp to find these pathognomonic specks. These bluish white specks, surrounded by red areas, are not found on the soft or hard palate. Sometimes only a dozen or more are found; sometimes the whole lining membrane of the cheeks and lips are covered by them. Nor do these specks ever coalesce so as to become plague-like in form—they always retain their punctate character. If the mouth has been washed these spots may have been rubbed off, and then the appearance is lost. As the skin exanthem shows and spreads, the pathognomonic specks become diffuse, and the characters of a discrete spotting disappears, and we have an intense general redness which is simply dusted over with myriads of these bluish white specks. When the skin eruption is at its efflorescence, the buccal eruption begins to fade and gradually disappears.

As to *differential diagnosis*:

In Rötheln, there may be slight reddening of tonsils and faucial pillars. Mucous mem-

brane has a normal pale pink hue, with slight rise in temperature. There are no white specks on a reddened mucous membrane of the cheeks and lips.

In erythema or urticarious eruptions, the buccal mucous membrane does not show the white specks on the red speckled background.

In drug eruptions (cinchona, antipyrin), the sign is absent.

In grippé, the mucous membrane covering the cheeks and lips has a normal pale pink hue.

In scarlet fever, there are a few red spots on the soft palate in most cases, but the buccal mucous membrane has a normal pale hue.

In aphthous stomatitis, the small aphthæ on the mucous membrane of the cheeks and lips is often associated with a slight fever, and the spots of aphthæ are much larger and yellowish, and show ulcerations.

Dr. Koplik has a full descriptive article in *Medical Record*, April 9.

Digitalis—Its Use and Abuse.

A well timed and valuable editorial is in March No. of the *Monthly Encyclopædia of Practical Medicine* on this drug, which also points out the non-utility of studies on the lower animals. Although digitalis has been before the medical world over 350 years, the majority of the profession remain ignorant of its physiological relations and rational administration.

Modern research has established that digitalis is not a cardiac sedative and depressant, but a tonic and stimulant. Yet its action is materially modified by many causes—perhaps the chief of which is idiosyncrasy. It has an elective affinity for certain organs according to the preparation employed. Notably, its stimulant cardiac action may be delayed for 24 to 36 hours after the initial dose, while this action upon the heart and circulation may persist for several days after the agent is withdrawn.

The average tincture of the shops [as every practitioner has realized] is usually inert or uncertain action—derived from dried and pressed leaves of uncertain age, plucked perhaps at any season and stage of growth, and cured without method. Little or no virtues accrue to foliage that is not of the second year's growth of the uncultivated foxglove, which should be gathered just before the close of the season for flowering, and especially dried in the dark at a carefully regulated temperature. The best digitalis, after ten or twelve months, even if kept in well-guarded and stoppered tins and jars, will have parted with most of its virtues. Hence the necessity of selecting *freshly gathered* leaves for preparing infusions, tinctures and

fluid extracts. Adulteration is another source of uncertainty—the leaves of black nightshade, black mullein and the common potato being the most usual adulterants. Make a concentrated infusion of the suspected leaf, and test on an opalescent plate with a drop of ferric chloride; if the reaction is *deep green*, it is foxglove; if blue, it is an adulterant.

Tinctures made from fluid extracts are not reliable; only those made by maceration and percolation of the freshly gathered leaves should be used. Solid and fluid extracts, or abstracts, unless made by the substitution process, avoiding any but the most gentle or moderate heat, do not represent the true virtues of digitalis. A brown or black hue, to the exclusion of green color, is *prima facie* evidence of improper manufacture. The most reliable tinctures are had from German, electric or homœopathic sources, as these are made from fresh undried leaves—the two former by maceration and percolation; the latter by expression of juice and subsequent mingling with an equal proportion, by weight, of 87° alcohol. The European ethereal tincture (twice the strength of alcoholic tincture, U. S. P.), and the acetum digitalis (maceration of 1 oz. of leaves in 9 oz. vinegar, and 1 of alcohol) are other excellent preparations.

Digitalisin tablets or triturates are not constant as to strength, and hence dangerous. So-called tablets of the tincture or fluid extract are usually inert.

The latterly exploited "active principles" are all glucosid, and not alkaloids, as claimed by manufacturers. They are not constant in therapeutics nor in physical properties—being capable of further chemical subdivision. To re-echo the opinion of Roth, *digitalin*, *digitalein*, *digitaline*, *digitaleine*, *digitalin verum*, *digitoxin*, *digitaliresin*, and *digitoxiresin* "are not to be recommended." They are variable in strength and action, as they are in dosage and titles, and often the supposed same agent is greatly at variance as regards different samples. Some idea of the ignorance and confusion existing regarding these glucosides is shown by the variance as to dosage. Thus the dose of *digitoxin* given by different authorities varies from $\frac{1}{200}$ th to $\frac{1}{30}$ th grain. That of *crystallized digitalein* or *digitaleine* varies from $\frac{1}{300}$ th to $\frac{1}{2}$ d grain among seven authorities. *Digitalin verum* varies from $\frac{1}{300}$ th to $\frac{1}{2}$ th grain among six authorities.

There is no such thing as "cumulative action" of digitalis except as any drug may become "cumulative" under its ignorant or careless use, without regard to the problems of

elimination. When blood pressure is high, kidney excretion may be arrested, as also the skin function; it is to the inhibition of elimination that untoward ("cumulative") action is due. Even this may often be prevented by exhibiting the drug with some more direct stimulant to the renal organs.

Digitalis is not the highly dangerous remedy generally surmised. The tincture has been given in 5ss. doses every fourth hour in delirium tremens. The late Mr. Jones has so given it in 70 cases without a single untoward result. Ringer and Sainsbury and scores of practitioners have likewise successfully treated this disease. Mr. King (Eng.) administered like doses to combat acute inflammation; he sometimes gave 5j of tincture to children a year old; and in all his extensive experiences, he never witnessed a single dangerous symptom. Pereira frequently gave 5j of the best quality "to an adult thrice daily for two weeks without observing any marked effects." Dr. H. C. Wood asserts that he "never saw a case where digitalis seemed to do serious harm by toxic action," even when given in very large doses.

Of all the abuses of digitalis, not one is so great, or so frequently and fatally detrimental, as that accruing to its use as an antipyretic. That it powerfully affects febrile temperature is undisputed; but its antithermic action, at the same time, induces a rise of blood pressure, more or less proportionate, without any increase of elimination of morbid products. Fever in itself is a physiological process—an attempt of nature to overcome toxic and effete materials—and its sudden decline, without provision for increased excretion and elimination, is a potent means for inducing auto-intoxication. In a patient with post partum pyrexia of 105° F., noted by Fothergill, the temperature was promptly reduced by digitalis to 101°; yet the case steadily progressed to fatality, evidencing that the fall was not due to general improvement, but to the antithermic action of the drug *per se*. Elimination was not increased; the emunctories were not stimulated; and the morbid products remained unconsumed to poison the economy, and the ultimate result was perhaps accelerated—doubtless due to resorption and general toxæmia. In one year, Dr. G. Archie Stockwell witnessed the deaths of three patients from simple remittent fever, each of which apparently should have recovered, in each of whom death was unmistakably referable to ignorant and injudicious use of digitalis as an antipyretic.

Another abuse of digitalis is its general employment alone as a diuretic—without regard

to the nature and character of the preparation. The glucosides of digitalis are unsafe to meddle with—more particularly, owing to their precarious chemical composition. They are altogether too potent for careless or speculative use. The tincture alone is not even relatively diuretic except as it may act through a diseased heart or imperfect circulation; the same is equally true of the fluid and solid extracts. But, paradoxical as it may seem, dry powdered leaves are more apt to produce diuresis when given in conjunction (but not simultaneously) with alcoholic beverages—more especially when the latter are taken hot and greatly diluted. The true diuretic preparation, however, is the infusion. Is this specific action referable to the aqueous constituent? Or, is not the glucoside, *digitonin*—closely allied to scoparin, senegin, *et al.*—likewise a potent factor? Both should be considered, since the more active glucosides are little or not at all soluble in water. The infusion, moreover, is in no sense antithermic, though it may sometimes relatively and reflexly induce some degree of antipyrexia; it does not tend to increase general blood pressure, while it does promote excretion and elimination, by the skin as well as through the kidneys.

But to be effectively diuretic, digitalis infusion must be given in large doses, or its action reinforced by some other agent—the most effective for this purpose being cantharides, though broom, squill or juniper usually receive preference. The ingestion of considerable quantities of fluid also is always desirable. Digitalis alone, in infusion, holds its own as a diuretic in Great Britain and in Europe, because it is seldom employed in the half-hearted, trembling way that generally obtains in America. Abroad, it is customary to fairly drench the patient with a "tea" made with two handfuls of leaves, and drunk *ad libitum* until ultimate narcosis, vomiting and purging supervene. In Ireland, many practitioners find an ounce of fresh digitalis leaves, infused in a gill of water, repeated as required, a most effective remedy for epilepsy.

It should be remembered that when there is great tension of the parietes of a cavity containing serous fluid—abdominal, pleural or pericardial, owing to extreme accumulation—neither digitalis nor any other diuretic will be effective. Here it is necessary first to relieve the tension, either by a hydragogue or by paracentesis, when the diuretic drug will act more favorably and tend to prevent further accumulation.

Thyroid Tablets for Prostatic Enlargement.

Stretton reports (*Birmingham Med. Rev.*, Mar., 1898, quoted in *Monthly Cyclop. Prac. Med.*, Mar., 1898,) the case of a youth, age 19, neurotic temperament, having perineal pains. The prostate was felt as large as a bantam's egg. He denied masturbation. Other treatment failing, he was given thyroid tablets three times daily. The enlargement entirely subsided, with considerable reduction of his neurotic symptoms.

Book Notices.
Book Announcements.

Messrs. Lea Bros. & Co., Philadelphia and New York, announce for early publication the following books by eminent authorities. Complete catalogues of the publications of this firm may be had by addressing either their Philadelphia or New York house:

Manual of Otolgy. By Gorham Bacon, A. M., M. D., Professor of Otolgy, University Medical College, New York. With Introductory Chapter by Clarence J. Blake, M. D., Professor of Otolgy, Harvard Medical School, Boston, Mass. Handsome 12mo. Numerous illustrations.

Treatment of Surgical Patients Before and After Operation. By Sam'l M. Brickner, M. D., Visiting Surgeon, Mt. Sinai Hospital, New York. Handsome volume of about 400 pages, with illustrations.

Text-Book of Dental Pathology, Therapeutics, and Pharmacology. Being a Treatise on the Principles and Practice of Dental Medicine. By Henry H. Burchard, M. D., D. D. S., Special Lecturer on Dental Pathology and Therapeutics, Philadelphia Dental College, Philadelphia. Handsome octavo of about 550 pages, with 400 illustrations.

Principles of Treatment. By J. Mitchell Bruce, M. D., F. R. C. P., Physician and Lecturer on Materia Medica and Therapeutics at Charing-Cross Hospital, London. Octavo volume.

Diseases of the Nose, Throat, Naso-Pharynx, and Trachea: A Manual for Students and Practitioners. By Cornelius G. Coakley, M. D., Professor of Laryngology in University Medical College, New York. 12mo., about 400 pages, with numerous illustrations, many of which are in colors.

Diseases of Women: A Manual of Non-Surgical Gynecology, designed especially for the use of Students and General Practitioners. By Francis H. Davenport, M. D., Instructor in Gynecology in the Medical Department of Harvard University, Boston. Third edition, thoroughly revised and enlarged, with many additional illustrations.

Treatise on Gynecology. By E. C. Dudley, A. M., M. D., Professor of Gynecology, Chicago Medical College, Chicago. Octavo volume of about 600 pages, with 425 illustrations, many of which are in colors.

Text-Book of Anatomy. By American Authors. Edited by Frederic Henry Gerrish, M. D., Professor of Anatomy in the Medical School of Maine. In one handsome imperial octavo volume, copiously illustrated in colors.

Manual of Skin Diseases. With Special Reference to Diagnosis and Treatment. For the Use of Students and General Practitioners. By W. A. Hardaway, M. D., Professor of Skin Diseases, Missouri Medical College. Second edition, entirely rewritten and much enlarged. Handsome 12mo. volume with illustrations.

Principles and Practice of Obstetrics. By American Authors. Edited by Chas. Jewett, M. D., Professor of Obstetrics in the Long Island College Hospital, Brooklyn, New York. Handsome octavo volume, with many illustrations in black and in colors.

Nervous System and its Diseases By CHARLES K. MILLS, M. D., Professor of Mental Diseases and of Medical Jurisprudence, University of Pennsylvania; Clinical Professor of Neurology, in Woman's Medical College of Pennsylvania; Professor of Diseases of Nervous System, in Philadelphia Polyclinic, etc. With 459 Illustrations. Philadelphia: J. B. Lippincott Co. 1898. Large Svo. Pages 1056—xxx. Cloth.

This "practical treatise on neurology for the use of physicians and students" treats especially of "diseases of the brain and cranial nerves, with a general introduction on the study and treatment of nervous diseases." We are promised that if "circumstances permit, this volume will be followed by another, which shall include the remaining diseases of the nervous system—insanity and the medical jurisprudence of both nervous and mental diseases." All of the well established discoveries as to cerebral localizations are graphically brought out, and many of the points in anatomy and physiology of the cerebral nervous system mentioned represent the advances of most recent date. General pathology and etiology, symptomatology and methods of investigations, the brief con-

sideration given of electro-physics, with descriptions of electro-medical apparatus, and the conditions demanding their use, are among the subjects presented in chapter II, which give great value to the book. General therapeutics is an excellent section, and the pages of formulas represent many new remedies which have been proven serviceable. After this, diseases of the brain and its membranes are considered; and then the other diseases of the nervous system are fully described and discussed. Numerous illustrations of high order of merit are introduced wherever it seemed helpful. In subject matter, the work abounds in instruction pleasantly imparted. The neurologist cannot afford to be without this book; while we do not know of a more thoroughly prepared text-book for practitioner or student. We do not like the running together of subjects in the same paragraph. Such arrangement makes it oftentimes very difficult to put the eye upon the paragraph desired. But aside from some such trifling criticism, we have not found aught in it that would detract from it as a representative American text-book for the student, teacher, or specialist. The work deserves a high place in the catalogue of College text books in the medical schools of the country.

Editorial.

Army Positions for Young Doctors.

Dr. George M. Sternberg, Surgeon-General U. S. Army, announces that an Army Medical Board will be in session at Washington, D. C., during the month of May, for the examination of candidates for appointment to the Medical Corps of the United States Army, to fill existing vacancies. The candidates must be between twenty-two and twenty-nine years of age, and graduates from regular medical colleges, as evidence of which their diplomas must be submitted to the Board. Each candidate for examination will make application to the Secretary of War before April 15, 1898, for the necessary invitation, giving the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from which he was graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates based on personal acquaintance from at least two reputable persons as to his citizenship, character and habits.

Successful candidates at the coming examination will be given a course of instruction at the next session of the Army Medical School, beginning in November, 1898.

Further information regarding the examinations may be obtained by addressing the Surgeon-General, U. S. Army, Washington, D. C.

In view of the possible permanent enlargement of the U. S. Army, this announcement may be of interest to a number of internes in hospitals whose terms are about to expire.

Gude's Pepto-Mangan, and Gude's Sign Advertising Co.

The M. J. Breitenbach Co. are justly indignant, and denounce some maliciously disposed dealers who, when interviewing the profession, have stated that "Gude's Pepto-Mangan" is placarded on walls, fences, etc. There is in New York a Gude's Sign Advertising Co. who place their name in bold letters, but the two companies are entirely different in *personnel* and in purpose. Any assertion to the contrary is false, and must be so known to the parties who have undertaken to injure the standing of *Gude's Pepto-Mangan* with the medical profession by the intimation that it is placarded on walls, etc. Furthermore the contract existing between Dr. A. Gude & Co., Leipsig, and their New York representatives, prohibits any such form of advertising. Honorable competition is all right; but when "drummers," dealers, etc., become so debased in morals as to manufacture or to circulate such falsehoods with the intention of injuring competitors who are really pursuing ethical methods, they should be indignantly rejected from the doctors' office. Such travelling men will soon be found to be the bearer of false statements even about the doctor who does not accede to their oftentimes impertinent demands. Not only as patrons do we make this publication for the M. J. Breitenbach Co., but also to warn doctors against the malicious gossipier—whoever he may be.

The Nashville Hospital Bill,

Now before the Councils of the city, has for its object the removal of the City Hospital from the field of politics and placing it under the control of a Hospital Board, which shall appoint the superintendent. The visiting medical and surgical staff shall consist of four divisions, one each from the three medical schools, and one to be chosen from physicians of the city not connected with any of the schools.

Graduates in Medicine, 1898.

The *Atlanta Medical College*, during its Fortieth Annual Commencement, March 28, conferred the degree of Doctor of Medicine on 46 graduates.

The *Southern Medical College, Atlanta*, graduated 28 Doctors of Medicine March 30.

The *Louisville Medical College*, graduated (March 25), 73 Doctors of Medicine.

The three Medical Schools of Nashville, Tenn., held their Commencements March 29 and 30.

Medical Department of the University of Nashville, 64 medical graduates—one a lady.

Medical and Dental Departments of University of Tennessee, 32 medical and 14 dental graduates.

Medical Department of Vanderbilt University, 66 medical graduates.

Dr. H. G. Nicholson,

Recently one of the House Physicians of the Virginia Hospital, has accepted the position of Superintendent and Resident Physician of the Sheltering Arms Hospital, at Paint Creek, Kanawha County, West Virginia. We will hear from him again; for one so faithful to duty and able in its discharge, soon takes a prominent position in the profession.

Danger in Spurious Imitations.

In line with unprincipled "travelling men," and others who undertake to tarnish the fair names of honorable competitors, are the efforts of some disreputable manufacturers who seek to introduce spurious articles in place of well-known and satisfactory preparations. It seems that Messrs. Mariani & Co. have recently had occasion to call attention to various dangerous decoctions masquerading as coca wine; which preparations are intended as meretricious imitations of the standard Vin Mariani, the merits of which are so well known and established. Many of the so-called "coca wines" on the market are variable solutions of alkaloid cocaine in artificial wines. Any physician realizes the danger ensuing from the use of decoctions of such a character. Quantities of spurious preparations of Vin Mariani have been seized by various health authorities and destroyed; but it is impracticable for health officers to keep track of all such imitations which works injuriously against a really valuable drug. The unadulterated Vin Mariani has stood the test of experience and observation in practice during about 35 years, and has the endorsement of over 8,000 leading prac-

tioners both in this country and Europe. No one opposes the effort to improve what is good; but we would, if we could, hold up to professional contempt the druggists who, not having the article prescribed, undertakes to substitute for it something on his shelf he tells the patient is "something just as good." Honesty should compel the party to state that he has not in stock the desired medicine. *Beware of tricksters.*

Health Matters in Port au Prince, Haiti, etc.

A medical organization, known as the "jury medical," exists in Port au Prince. It is composed of four doctors and one druggist. They examine all persons desiring to practice medicine in Haiti, but pay no attention to hygienic or health matters. All contagious or infectious diseases are treated at the patient's house. No means are employed to isolate either class of patients. In case of yellow fever, the patient can, if he so wishes, be sent to either the French or Sisters of Charity Hospitals, where he pays \$3.00 a week.

Philadelphia Pay Hospital for Contagious Diseases.

A company has been formed to erect a contagious disease pay hospital in Philadelphia. Patients are expected to pay according to their means. The company is now in quest of a \$100,000 site.

Medical Society of the State of Tennessee.

The program of the meeting announced for April 12-14, in Jackson, is a very full and interesting one. Thirty-five titles of papers are given.

Obituary Record.
Hugh Hagan, M. D.

Among the younger members of the medical profession, few have made so great an impression on those with whom they have come into contact as did Dr. Hugh Hagan, who died in Atlanta, Ga., on the 22d of March, 1898. Probably no man of his age will be more missed in the community in which he lived, and many of his friends may be glad to have a brief sketch of his life.

Hugh Hagan was born in Richmond, Va., in 1863. During that summer the city had a respite from the storm of war that beat on it for

so long while General Lee invaded Maryland; and it was during this lull, on the 22d of June, that he saw the light. His parents were Hugh Hagan and Sarah Copeland McMinn, and were of Quaker extraction. The families of Webb, Harlan, Hooper, Springer and Gaylor, from which he sprang, were among the earliest of the Pennsylvania settlers, and it was no doubt from this strain that he derived the honesty of purpose and fidelity to friends and principles that marked his character.

His boyhood was not different from that of others of his status. He attended the public schools and graduated from the Richmond High School on February 15, 1882. In 1884, he went to Berlin for further study, taking a course of lectures in the University in 1884, and, in all, spending two years in foreign travel and residence. Returning to America, he entered the College of Physicians and Surgeons of New York, from which he received the degree of Doctor of Medicine in 1888. He took a summer course in the Medical College of Virginia during one of the vacations.

While a student in the "P. & S.," he met Miss Sallie Cobb Johnson, of Atlanta, Ga., who was visiting New York. A friendship arose between them that rapidly ripened into love, and they were married in 1887. Mrs. Hagan is a daughter of the late Dr. J. M. Johnson, who was one of the most prominent physicians of Atlanta and of Georgia, and through her mother, who was Miss Mary Willis Cobb, she is connected with several influential Georgia families.

After graduating in 1888, Dr. Hagan went abroad to study neurology. His wife accompanied him, and while they were in Vienna their home was always open to American and English students. There are many now scattered over the United States and the British Empire who, when they see the notice of his death, will recall the happy Sunday evenings spent at his house under the care of Mrs. Hagan and himself, that brought to us sweet memories of the hours from which we were so distant. He watched over the fresh arrivals, and aided them in many ways as his familiarity with German customs and the German language enabled him to do. The writer is indebted to him for many acts of kindness. Indeed, without his aid the laboratory facilities of the *Krankenhaus* would have yielded but little; but Dr. Hagan secured from the "diener" much material and many needed appliances that otherwise would have been obtained with difficulty.

In 1891, Dr. Hagan commenced practice in

Atlanta, and was rewarded by a large clientele. The genial qualities that made him popular with his college-mates made him welcome by the bedside, and his skill and knowledge made him a valued consultant. He was a kindly, hospitable host, and his home was one remembered with delight by those who were privileged to enter it. Although he avoided politics, he took deep interest in social organizations. He was a charter member in the Georgia Society of the Colonial Wars, in which his death makes the first breach, the Georgia Medical Association, the Tri-State Medical Society of Alabama, Georgia and Tennessee, the American Medical Association, and the Atlanta Society of Medicine, besides the Virginia Society and the Capitol City Club of Atlanta. He was an eminently "clubbable" man, and the charm of his personality warmed the hearts of all who knew him.

His high standing in his profession shows the extent of his attainments. Few foreign students are as laborious as he was, and at home and abroad he took full advantage of his opportunities. The teaching of Starr, Prudden, Nothnagle, Erb and His fell into fruitful soil; and in neurology he was a specialist in the best sense, being especially and not exclusively skilled in it. His diagnoses were clear and accurate, reached by logical reasoning guided by exact knowledge; and in treatment his magnetic personality aided his therapeutic skill, and his very presence was curative.

The labor of a large practice left Dr. Hagan scant time for writing, but so full a brain felt the need of an outlet. He wrote only when he had something to say and only when something of real merit was the result. His chief papers were "A Case of Dermatitis Medicamentosa," *N. Y. Med. Jour.*, March 28, 1891; "A Case of General Athetosis," same *Journal*, Jan. 16, 1892; "A Case of Cretinism," *Atlanta Med. and Surg. Jour.*, Feb., 1893; "Migraine, same *Journal*, Jan., 1895; "The Medical Expert; What He Is and What He Should Be," same *Journal*, Oct., 1897.

He is survived by his wife and two sons, Hugh, Jr., and Willis Cobb.

In these simple annals scant justice is done the memory of the man whose life is so lately ended. He promised to be one whom the South can ill spare. Though cut off just as his powers were beginning to show their force, his life may well be emulated by the younger men, as it is one that will be remembered by his friends with loving pride.

CHARLES MINOR BLACKFORD, JR., M. D.
Augusta, Ga., April 5, 1898.

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Original Communications.

SOME OF THE MANIFESTATIONS OF SYPHILITIC INFLAMMATION OF THE FUNDUS OCULI.

1. Remarks Upon Two Cases of Syphilitic Retinal Arteritis—One Old, the Other in the Acute Stages.
2. A Case of Diffuse Syphilitic Retinitis in which the Appearances in the Fundus Closely Resembled Those of the Advanced Stages of Retinitis Pigmentosa.
3. The Central Scotoma of Recurrent Central Retinitis Syphilitica and of Retro-Bulbar Neuritis Syphilitica.

By JOHN DUNN, M. D., Richmond, Va.,

Professor of Diseases of the Ear, Nose, and Throat, University College of Medicine, and Associate Professor of Diseases of the Eye in the Same. One of the Surgeons to the Richmond Eye, Ear, Nose and Throat Infirmary, etc.

I. Remarks Upon Two Cases of Syphilitic Retinal Arteritis—One Old, the Other in the Acute Stages.

Syphilis, which has the pass key to every part of the eye, not infrequently prefers to take its abode in the retinal arteries, and to work in their walls its greatest damage. Syphilitic retinal arteritis, as it varies greatly in its severity, so its ophthalmoscopically visible manifestations may be very different in different cases. There are good reasons for believing that it may be so mild as to produce symptoms too slight to attract the patient's attention; again, it may be so severe and extensive as to cause the greater part of the vitreous to be permeated with vitreous masses, destined to successfully resist every method of treatment.

It is in the study, under the ophthalmoscope, of retinal arteritis that one finds perhaps the strongest argument for the incurability of syphilis. In the walls of the arteries are to be seen, from time to time, small plaques of scar tissue, the result of former exacerbations,

occurring in the course of the disease; here and there we may find a vessel whose lumen has been entirely occluded; or we may find the vessel walls so thickened that the channel for the blood is reduced to capillary dimensions; or, again, there may be, in the course of the artery, a section which is apparently obliterated, the course of the vessel being marked by a fine grayish line in the retina. This line represents the altered walls of the vessel, which is still pervious, for the artery regains its color and size after this section has been passed.

These are some of the changes produced by syphilitic inflammation of the visible retinal arteries; *changes, like in character, occur in the arteries too small to be seen by the ophthalmoscope.* These conditions do not yield to treatment; they remain after the patient has taken "the thorough course for the prescribed length of time," remain to mark the field where the battle was fought, and in which a new order of things has been established. The injured vessels as time passes by, no longer fill the measure of their duties, and atrophy of the retina and of the optic nerve are often but the late expression of a syphilitic arteritis, which was unnoticed and unnoted at a time when there were present the grosser manifestations in the skin and mucous membrane.

Judging from the revelations made by the ophthalmoscope, syphilitic retinal arteritis may occur alone, or it may be associated with syphilitic changes in any or all of the other tissues of the eye ball. In one of the cases to be described it was associated with diffuse retinitis; in the other, with choroido-retinitis. In the former case, the trouble was seen during the acute stages; in the latter, after the inflammation had subsided.

The latter case has for our purposes two points of interest—first, the disseminated plaques in the walls of the large arteries; second, the apparently entire obliteration of the section in the course of a vessel, which peripherally regains its size and color.

John, negro, aged 23, O. S. No visible trou-

ble in cornea, sclera, iris or lens. Vitreous contained numerous opacities—some of the fibrinous variety. Region of the macula shows extensive destruction of the retina with involvement of the choroid; area involved about equal in size to 3 Od. *The main arteries in the neighborhood of the disc show in their walls discrete grayish white plaques, which give to these vessels an appearance suggesting the skin of a highland moccasin. These plaques are not in the retina adjacent to the artery, but in the vessel wall (Vid. Fig. 1). They represent old syphilitic inflammatory areas, infiltrated with fibrin similar in character to that which we find about the vessels, and even protruding into the adjacent retina and vitreous in severer cases of this same trouble. In this case this fibrin saved the vessel walls from rupture and probably helped to preserve the lumen.*

The superior and inferior branches of the central retinal artery give off each a rather large branch which course toward and beyond the macular region. *From their point of separation from the parent stems for a distance equal to about 1½ Od., both of these vessels are represented in the fundus by broad, grayish white lines, which to the naked eye, aided by the ophthalmoscope, show no vessel outline, no central vascular reflex, no reddish contour. Peripherally, however, these vessels continue their course, normal in size, contour, and color. This, of course, could not be the case were the lumen obliterated over the sections represented by the grayish lines; unless, indeed, these arteries had anastomoses with the ciliary arteries, as more than one writer is willing to believe is sometimes the case. It would seem, however, to be more rational to suppose that the lumen, although much contracted, is still patent, and that the vessel-walls beyond the obstructed section are healthy, not having participated in the inflammatory process. This point is an interesting one in connection with certain changes observed to take place in the retinal arteries after incomplete embolization.*

In these partially obliterated arterial sections we have the second chapter in the book on syphilitic fibrinous exudates in the retina and vitreous. In the plaques, we see this deposit limited to small areas of the vessel circumference, and possibly present only in the outer walls of the vessels; in the second picture, we have the fibrin still confined to the vessel's walls, but invading the whole circumference, and probably all of the layers of the vessel.

In O. D., the plaques are confined to the inferior branch of the central artery and its subdivisions near the disc.

In the case of Mrs. A., aged 45, we had *retinal arteritis associated with diffuse retinitis, and*

the case was seen while the inflammatory processes were at their height. Among the evidences of the swollen condition of all the layers of the retina, inner as well as outer, was a characteristic one, which, however, does not seem to have been much mentioned in reports of diffuse retinitis. In this case, in most instances, where arteries and veins crossed, the artery did so internal to the vein, and hence appeared, under the ophthalmoscope, to be on top.

There was some co-existing papillitis, retarding the venous current and causing the veins to be abnormally full and blackish. The pressure exerted on the veins by the swollen outer layers of the retina caused the arteries (these having stouter walls) to press the walls of the vein together at the points where vein and artery cross, thus further obstructing the venous return flow. In a few instances, the vein was on top at the point of crossing, and in these cases a similar indentation into the vein was caused by the artery below. (Vid. Fig. 2.)

Besides the evidences of general retinal swelling, the arteries, O. S., showed evidences of an extensive involvement where the upper temporal branch divides above and just exterior to the antero-posterior macular planes. The bifurcations were covered with a glistening white fibrinous exudate, which, for a short distance, followed the course of the vessels and then branched off into the adjacent retina. That the whole vessel wall was the seat of inflammatory changes, and the lumen almost entirely, if not entirely, occluded, the appearances present, and to be described, clearly prove.

Here, then, is the third stage of the syphilitic fibrinous exudate, that in which the exudate has passed out of the vascular tissues and is found in the retinal tissue proper. In the case of Mary A., colored, aged 30, where there existed iritis, in addition to the arteritis syphilitica, the fibrinous exudate was profuse, filling one vitreous body so completely as to shut off any view of the fundus, while into the other it protruded in great quantities. (In this case, then, we have the fourth stage.) Beyond this bifurcation, the lower arm could be seen only in segments, some of which were the seat of hemorrhages, some of which seemed filled with short columns of blood. (Vid. Fig. 3.)

The whole area of retina to which this artery supplied blood had a swollen, watery appearance, while all through it were to be seen hemorrhages in various stages of absorption, and at various depths in the retina, a few being just under the hyaloid. Scattered through-



FIG. 1.—Shows only the arteries.



FIG. 2.—Veins indented by crossing artery— one below or under, and one above or resting on artery.

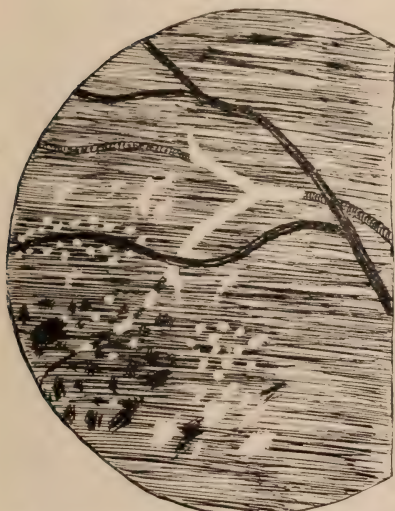


FIG. 3.—Lower branch or arm seen only in segments, some of which are seat of hemorrhages; some filled with columns of blood.



FIG. 4.—Main branches of retinal veins traced as mere threads, almost branchless, for considerable distance.

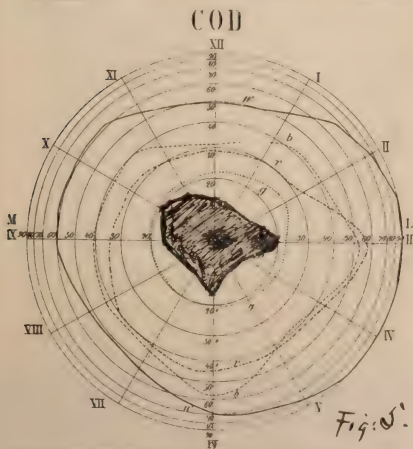
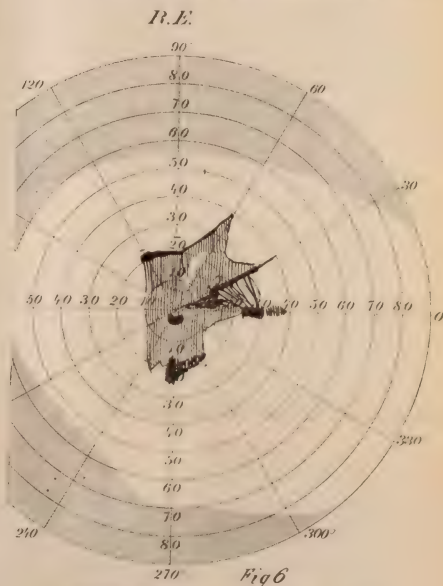


FIG. 5.—Scotoma strictly central, although extending about 10 to 20 degrees around macula.



Recurrent scotoma—In areas, density very great.



out this area were areas, varying in size, made up of watery white blotches, representing probably both the remains of hemorrhages and degenerated areas of retinal tissue. These whitish patches nearest the macular region suggested at first glance retinitis albuminurica. The urine, however, was normal, and, moreover, the extensive retinal changes in the other eye bore no resemblance to those caused by kidney disease.

II. Case of Diffuse Syphilitic Retinitis, in which the Appearances in the Fundus Closely Resembled those of the Advanced Stages of Retinitis Pigmentosa.

John M., aged 26, contracted syphilis four years before he came for treatment. About two years ago his sight began to rapidly fail. Examination of his eyes revealed the following conditions: V., O. D. and O. S., $\frac{1}{4}$ to $\frac{1}{8}$ more or less; pupils semi-dilated; refraction + 21 sph., which glasses, however, did not materially increase the usual acuity. Patient complained of seeing much worse at night than in the day. *The vitreous of each eye showed about its centre a large disc shaped, almost perfectly transparent, fibrinous deposit, and it was the presence of this deposit which suggested the idea that the condition of the fundus was not solely due to uncomplicated retinitis pigmentosa.* Except for these deposits, vitreous of each eye was normal. Excentrically, the whole fundus was studded with the typical small, linear, spindle-shaped or starlike pigmentations to be seen in retinitis pigmentosa. These little black areas became more numerous the further their position from the disc, about the immediate vicinity of which there were very few. The retina, as a whole, gave the appearance rather of being thickened than of being atrophied, the choroidal vessels not being visible. Now and then, as the ophthalmoscopic searchlight was turned upon the different portions of the fundus, there came into view *very small annular pigment blotches, similar to but very much smaller than the areolae seen in choroiditis.* There was, however, no atrophy or destruction of the choroid visible. The optic papilla was atrophied; its surface was, however, not depressed, but rather raised above the level of the adjacent retina, being considerable higher to the nasal than to the temporal side of the disc, and over the higher portion could be seen a faintly pink color, resembling that sometimes seen in atrophy where the vessels have not as yet participated in the atrophic process. In this case, however, the disappearance of the retinal vessels was the most complete I have ever seen. In the right eye there was not a

trace of a retinal artery to be seen anywhere in the fundus further from the optic disc than one-third the disc's diameter, while in the disc itself the arteries were represented by threads scarcely visible. The main branches of the retinal veins could be traced as mere threads, almost branchless, for a considerable distance. [Vid. Fig. 4.] In the left eye the disappearance of the vessels was less marked; both arteries and veins, however, were mere threads, but were still visible some distance from the disc. As the patient could not see well enough to test his vision with the perimeter and colors, two candles were used in a darkened room. He was made to fix one of the lights, while the other approached the central light from different directions; in this way it was made out that while the fields for light perception were concentrically contracted, they were of larger extent than one would have expected to find in so advanced a case of simple retinitis pigmentosa.

Examination of the patient's sister, aged 20, showed old optic inflammation, with marked paleness of the papilla and with great diminution in size of the retinal vessels. Patient, however, shows no contraction of the usual fields; has no night blindness, no demonstrable disturbance of the color sense, no pigmentation of the retina. V., O. D. and O. S., $\frac{1}{8}$.

The above case has more than one point of interest. The patient was unable to give any clear history of his loss of sight. He said he had ever since he could remember had difficulty in reading, but whether this was due to his refractive error or to inflammatory changes could not be ascertained. The eyes of three brothers and a sister, all of whom were under thirty years of age, were examined. The sister, as above mentioned, had had neuro-retinitis, which had resulted in marked diminution of the retinal vessels; one brother had optic discs, so excavated as to leave it doubtful whether the excavation were wholly physiological or in part pathological. The other two brothers had no eye affections worthy of note. In the case, the subject of this article, it is possible that the syphilitic inflammation of the retina developed in tissue which had previously been the seat of inflammatory changes. Here we have night-blindness, of the existence of which, however, the patient has no recollection prior to the time when the late inflammatory changes had induced general retinal torpor. This acquired night-blindness thus differs from the hereditary form, where the patient from childhood is conscious of abnormally diminished vision in diminished illumination. In this case, the diminution of the field for light perception,

although concentric, was not in proportion to the visible retinal changes. In retinitis pigmentosa, uncomplicated, we do not find, save very exceptionally, opacities in the vitreous; in this case, the condition of the vitreous pointed to the prior occurrence of active inflammatory changes in the retina. In retinitis pigmentosa, the progress of the disease is a gradual one, often leaving the central vision good in the presence of extensive contraction of the visual field. In this case, the central vision was diminished out of all proportion to the extent of field for light perception. And, lastly, if the appearances present were due to syphilis, it suggests the possibility that the production of this form of retinitis as a syphilitic manifestation was rendered possible by the fact that the retina had been the seat of prior extensive inflammatory changes due to other causes. In one case of congenital night-blindness I have found opacities in the vitreous. In this case, however, the patient was fifty-odd years old, and the opacities I considered due to late changes in the ciliary region, inasmuch as the patient had numerous patches of cloudiness in the lens.

III. Central Scotoma of Recurrent Central Retinitis Syphilitica and of Retro-Bulbar Neuritis Syphilitica.

Recurrent central retinitis with its companion, scotoma, is a rare variety of syphilitic manifestation, some writers of great experience being unwilling to give their unqualified sanction to the fact of its ever occurring. Its chief characteristics, according to Leber, are the sudden appearance of a marked central scotoma, which, in most cases, lasts only a few days and then disappears, to recur again and again after varying intervals. At first the visual acuity is normal between the intervals, later a constant visual disturbance can be demonstrated. The scotoma may be strictly a central one or may have prolongations in some direction. The ophthalmoscope reveals about the macular region a slight clouding of the retina and at times the existence of one or several small whitish spots. The papilla remains normal. Complications may co-exist. One or both eyes may be affected. In the case of Mr. R., aged 40, history syphilitic, O. S. normal, there appeared before the right eye one morning a grayish mist, which about ten days later was, although decreasing, sufficiently dense to render indistinct all the letters on Snellen's test-card, when 16 feet distant. Some letters, however, in $\frac{1}{2}$ and $\frac{1}{3}$ could be made out. Glasses did not improve the vision. The scotoma was strictly

a central one, although extending about 10° to 20° around the macula. [Fig. 5.] There was no peripheral contraction of the visual fields. The central scotoma was not absolute for any color, although both green and red, when near its centre, appeared as a dirty yellow. The scotoma was densest centrally. There was no disturbance of the color vision beyond the limits of the scotoma. The ocular media were free from inflammatory appearances. The disc was normal. *The macular region of the retina showed several faint small grayish-yellow roundish spots; but no visible oedema.* This may have disappeared before the patient came for treatment. To the inner side of the disc, on its level and about 1 Od. distant, was to be seen a similar patch of these minute spots. The retinal vessels showed in places some diminution in size, and possibly some undue irregularity in course. Otherwise the fundus was normal. The scotoma had begun to lessen in density before Mr. B. came for examination; and under the administration of the iodide of potash, entirely disappeared in about a week, leaving the vision normal. About two weeks later still the scotoma returned to a noticeable degree, but lasted only two or three days. Since that time the patient has not been seen.

It is not unlikely that the minute yellowish white spots in the neighborhood of the macula bore evidence to the earlier existence of terminal arteritis, and that the scotoma was due to congestion with its resulting imperfect blood supply to the macula. If this be the case, there is no reason why many obscure general conditions may not cause again and again the reappearance of the congestion, and thus the scotoma, which, as attack succeeds attack, will become more and more lasting, and finally permanent, while the changes, which of necessity must take place in the terminal arteries, will produce more and more extensively visible alterations about the macula, with increased loss of central vision. Compare with this case the recurrent scotoma in a case of retro-bulbar neuritis syphilitica occurring during the acute stages of papilla-retinitis syphilitica. Mr. S., aged 28, had this latter affection, complicated by iritis. He had been under treatment for about one month, and apparently was doing well; the iritis had subsided, the dust-like opacities in the vitreous were disappearing and the inflamed papilla had much decreased in size; his vision was gradually improving, so that he could read $\frac{2}{30}$. He was told to return in a week. *During this time a large, absolute central scotoma made its appearance.* The visible intra-ocular conditions were unchanged, save for the better. There were

no visible alterations about the macula region to account for the central scotoma, which was evidently due to retro bulbar involvement of the nerve. The general diminution of the vision in syphilitic papilla-retinitis is a different thing, and when existing alone is much less complained of than when it is complicated by a central scotoma, due to concomitant retro-bulbar neuritis. In about three weeks this scotoma had almost disappeared, the patient saying that only a slight central mistiness remained. A week later the scotoma recurred. It now had this peculiarity, that for certain small areas of its surface its density was much greater than in other places, a fact which the patient discovered for himself by lighting a cigarette in the dark and with the lighted end toward him trying to map out the limits of the scotoma, which, as the Fig. 6 shows, was in places absolute.

314 East Franklin St.

DIFFERENT METHODS OF INTESTINAL SUTURING.

By H. BERLIN, M. D., and J. W. MACQUILLAN, M. D.,
Chattanooga, Tenn.

When, at the end of the present century, medical science reviews the numerous discoveries that have been made in her domain, she can say without hesitation, "As great as the progress has been in other branches, I can claim, with just pride, one of the foremost, if not the first place, in the ranks of advancement."

The short span of a human life has sufficed for one of the most important divisions of medical science—namely, surgery—to undergo a complete revolution in the matter of consideration, treatment, and technique of the various diseases and operations she has to deal with.

Lister is the name that has left an indelible impression on this new era. We must thank him for the impulse given to the elevation of the art.

To the present perfection nearly every surgeon in the last twenty years has contributed, and we accomplish daily what no one would formerly have dared imagine possible—lives apparently lost are saved, and shattered health restored.

In the beginning of the antiseptic, and later of the aseptic, era, surgeons turned their attention to the diseases of bones and joints,

subsequently studying more minutely the surgical treatment of internal organs, and, in recent years, the morbid changes in the organs of digestion; their success in this direction has attracted special notice. The pathology, and chiefly the symptomatology, of the abdominal organs had heretofore been so incomplete, it followed that the faulty clinical picture of the diseases and their inefficient therapeutical and operative treatment should be subjected to justifiable censure.

Progress in pathology and methods of examination encouraged surgeons to greater activity. The publication of more favorable results produced new workers in the field, till at last we are unable to decide which may be the most suitable method of operation in certain cases, for every day brings us new suggestions, the testing of which would be impossible on the human subject. Therefore, in the labyrinth of intestinal operations, in order to be able to form an opinion, we must have recourse to animal experimentation. The best subjects for these experiments are undoubtedly dogs, which, with the exception of apes, are the most closely allied to man physiologically.

The object of our researches was, on the ground of experiments, conducted on animals, to observe the technique, manner of healing, and results of the different intestinal sutures, which have formerly and more recently been proposed.

The function of the collective intestinal sutures consists in the approximation of the serous or peritoneal covering of the intestine at the site of the wound till primary union takes place.

As early as 1826, Antoine Lembert emphasized this fact. Nothing proves more conclusively that he was right than that, in spite of the many changes introduced in the treatment of intestinal wounds, this function of the serous membrane still remains the most important factor.

The methods of approximating the serous surfaces are divided into two principal classes:

1. By sutures.

2. By means of foreign bodies introduced into the lumen of the intestine, these bodies being subsequently disintegrated, dissolved or expelled by intestinal action.

Both these methods have their advantages as well as disadvantages, the results in many cases being admirable.

LEMBERT METHOD.

Let us first consider the Lembert suture. (See

illustration.) It is used for both anastomosis and repairing wounds of the intestine. The stitches should be about an eighth of an inch apart, and pass through the serous and muscular coats, the mucous being left intact; in applying, the edges of the wound are turned in, and the sutures made with a fine sewing needle and aseptic silk; when tied, the serous surfaces are approximated—never so completely, however, that a probe may not be introduced between the stitches, which fact would enable gas, fluids, or small particles of feces to escape; any closer proximity of the sutures is unsafe, for they would interfere with the nutrition of the intestine, and favor sloughing. Though many excellent results are obtained by Lembert's method, it is far from perfect.

CZERNY METHOD.

Czerny, to minimize the dangers attending the Lembert operation, introduced a double row of sutures, turning the ends of the first row into the lumen of the intestine, then putting in another row above these. (See illustration.) It is really a double Lembert, but has this fault that, as the first row is turned inwards, there is no room left at the end to complete it, the last part being a simple Lembert. Other serious objections to this method are the narrowing of the intestinal lumen, which causes obstruction, often followed by necrosis and peritonitis; and the increase of peristaltic action above the constriction, in order to overcome the resistance offered the progress of the contents of the intestine, causes hypertrophy of the muscular coat, which can only last a certain time, and is inevitably followed by paresis.

Other methods of procedure, such as *Halsted's*, who laid stress upon including the submucous coat in the sutures, do not materially differ from the original.

KUMMER MODIFICATION.

The next important modification was introduced by Kummer, who separated the serous and muscular coats from the mucous, sutured the latter together, turned in the former, and joined them by a Lembert. This operation has the advantage of not narrowing the lumen, but simply shortening the intestine a little. The preparation of the flaps is very tedious, and the stitches liable to tear through the mucous membrane, thus exposing the patient to many risks.

RAMDOHR METHOD.

Ramdohr advanced the idea that perforation of all the intestinal coats by suture was per-

fectly safe, and, adopting this principle, operated by invaginating. (See illustrations.) Two loop sutures were passed through the walls of the upper part, the cut ends of the lower being turned in and transfixed by the needles threaded on the ends of the loop; the upper was drawn into the lower, thus bringing the serous surfaces together. But even if this operation can be performed quicker, it is always possible for gas and fluids to escape through the suture punctures into the peritoneal cavity; the lumen of the intestine is also narrowed. This method is a *modification of Jobert's*.

Mansell proposed a very ingenious operation for end-to-end anastomosis, which has the advantage of being quickly and accurately made with very few instruments. (See illustrations.) Four loop sutures are passed through the cut ends of the intestine—one at the mesenteric, and one at the free border, and two between these laterally. The ends of the loops come into the lumen; a longitudinal incision is made through the intestine, about one-half or three-quarters inch back from the severed end, through which these sutures are drawn, thus turning the intestine inside out, with the serous surfaces approximated and the lumen patent. The intestines can now be rapidly joined by interrupted or continued suturing, the loops are tied and cut short, and the united intestine drawn back through the opening, the longitudinal incision being closed by a Lembert suture.

The objection to this method is the necessity of a second incision, which must be closed by a Lembert, subjecting the patient to the dangers already mentioned of this operation.

The foregoing description includes all the principal methods of procuring union of the serous membranes by suture.

SUTURE OF THE FOUR MASTERS.

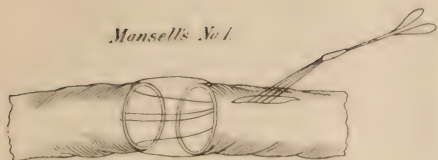
Let us now consider the second class. Going back to the year 1520, we find (in the *Chirurg. Venet.*) a description of the suture of the four masters. This consisted of a tube about two and one-half inches long, made of either a card board bent to the form of a cylinder, or the trachea of a calf or goose, over each end of this tube; the severed ends of the intestine were pushed till they met in the middle, then united by sutures.

DENANS' METHOD.

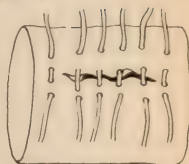
Another invention was that of Denans, of Marseilles (1826), who used three cylinders composed of silver or tin. The two larger ones—6 or 7 mm. long, and the size of the

INTESTINAL SUTURING.

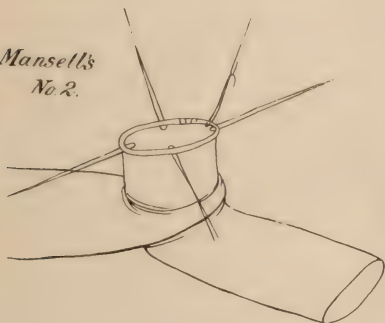
Mansell's No 1.



Lembert



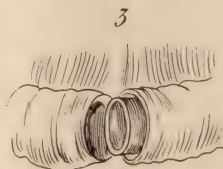
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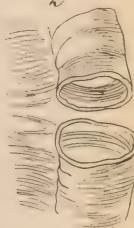
Ramdohr's Method.



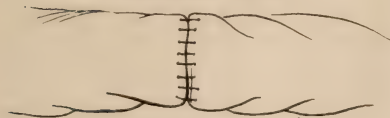
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Mansell's No 3.



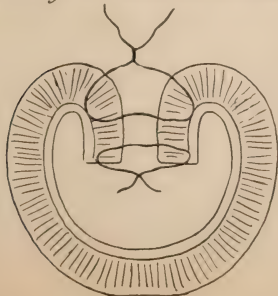
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5



Czerny suture end view.



lumen of the intestine—were introduced into each end of the bowel, and its ends turned into them; then the smaller tube—12 to 14 mm. in length, and sufficiently small to accommodate itself to the larger, lined by the intestine—was pushed into both ends till they joined in the middle, thus approximating the serous surfaces. The sutures passed through the intestine and calibre of the tubes, and were secured, thus holding the cylinders together which were subsequently expelled by intestinal action.

BONE AND RUBBER PLATES, ETC.

This idea was followed by a number of similar ones, such as using tubes composed of wax, cocoa butter, and raw potatoes, till finally Senn employed rubber rings to unite the ends of the intestines. The same surgeon, when advocating lateral anastomosis, suggested decalcified bone plates. The idea originated, however, with Reybard, in 1827. This surgeon used rubber plates with an oval opening for establishing intestinal fistule.

SENN'S PLATES.

The advantages of Senn's plates are the rapidity of operation and the wide area of approximated serous surfaces, producing firm union. The objections that, if the sutures are not tied sufficiently tight, the contents of the bowel escape into the peritoneum; and, conversely, if tied too tight, sloughing will take place.

MURPHY BUTTON.

The most ingenious invention was made by Murphy. It is a separable button, which keeps up equable pressure on the approximated serous surfaces by means of a spring, and is suitable for end-to-end and lateral anastomosis. Of course there are objections to it, for it is metal, and cannot be absorbed, which difficulty *Frank* has tried to overcome by using other material; also *Sachs*, who makes a bone button in the form of a cuff button.

It is true, Murphy's button is one of the best appliances we have for intestinal work, but it cannot be used in the cæcum, and in cases of gastro enterostomy, is liable to drop into the stomach, which event happened to us recently in one of our cases.

All methods have their weak and strong points, and it is our object in writing this paper to make the profession in general acquainted with these facts.

The surgeon who works in a large hospital knows that each case to be operated on is a

law unto itself, and no hard and fast rule, as to what the best method is, can be formulated till the condition of the tissues involved is apparent.

It is well for the general practitioner to understand that, although Senn's and Murphy's methods are brilliant inventions, still they are not always suitable; and he who pins his faith to these alone, will sometimes be disappointed. For this reason, the doctor who may be called on at any time to do abdominal work should acquaint himself intimately with all the principal methods, for each one has its range of applicability; and, as dogs and time are within the reach of most men, there is no reason why practical knowledge and operative skill should not be acquired.

110 McCallie Avenue.

PRODUCTION OF DIGESTIVE FERMENTS BY MICROSCOPICAL PLANTS.*

By JOKICHI TAKAMINE, M. D., Baltimore, Md.

Mr. Chairman and Gentlemen,—It gives me great pleasure, and I feel highly honored to be called upon to address you this evening, on the subject which I have been investigating for the last ten or twelve years. It is the result of the application of modern science to one of the old processes known for centuries in Japan.

It may be interesting to you to note that the medical science was one of the most prominent means of introducing the modern civilization into Japan. You will observe that most of the eastern countries were opened to the commerce of foreign nations by the point of sword, bayonet or Armstrong gun. The result of such forced openings are, as a rule, of a superficial nature, and the progress of modern civilization by such nations is slow, while if you take Japan into comparison, you will observe a very remarkable difference. Within the last thirty years, Japan has made the most remarkable progress—the parallel of which is unknown in the history of the world, and the foundation of the starting point of this civilization is attributed to the medical science. Long before the Revolution or Civil War took place in Japan, the advantages and superiority of the European school of medicine over the Chinese school were appreciated and diffused to a certain extent throughout the country. There was

* Remarks made before the Richmond Academy of Medicine and Surgery, April 12, 1898, in response to call made on the Speaker.

a small Dutch settlement at the port of Nagasaki, and, naturally, there were several physicians among them, whose medical practice, when compared with that of the old Chinese school, was far superior; irrespective of the fact that there was a strong feeling of anti foreigners among the people, the people soon appreciated the superiority of the European school of medicine, and it was not long before a hospital was established, headed by a Dutch doctor, and a medical school was connected with it. The leading physicians in the different parts of the country, hearing of the establishment of such a hospital and school, sent their sons to be educated there. Disciples soon spread all over the country—some practising and some opening schools for the teaching of European medicine. As a result, the study of the Dutch literature became a matter of great importance in the study of not only the curing arts, but also other useful arts and sciences. And those who wanted to study other branches, such as chemistry, military and naval sciences, etc., entered the medical school in order to get a knowledge of the Dutch language. In the meantime, Commodore Perry opened the country to the commerce of the world, and some years after, the Revolution, or Civil War, occurred; and the Emperor, who was supported by the progressive Daimios, recovered the governing power which naturally belonged to him. Men of progressive ideas were selected as the counsellors of the Emperor, and those progressive men chiefly consisted of men who acquired their knowledge of modern progress through the agency of the medical school; some were practicing physicians—others were preparing to become physicians. Since that time, there have been probably ten different sets of Cabinet members of the Japanese government, consisting of eight to twelve members; and if we take any of these sets of statesmen, we will find from 40 to 60 per cent. are some derivative of the medical men. So you will find that the introduction of medical science into Japan was the chief cause of the wonderful progress Japan has made. The country was opened from its heart, and not at the point of the gun, showing the difference between compulsory and voluntary opening.

It is also interesting to observe that religion oftentimes has a great deal to do in modifying the condition of any country, but in the case of Japan it will be found that religion had very little influence. It was almost entirely by the brilliancy of science and its practical applications.

The subject I want to draw your attention to

this evening is one to which modern science has been applied, namely, *The Production of Diastase by the Microscopical Plants*.

Up to the present time, the germination of cereals has been the only source of diastase of any practical importance known in America and Europe. It is true that there is diastase of animal origin, such as ptyalin and pancreatic diastase, but their sources being limited, and their potency unstable, they are comparatively of less importance than vegetable diastase, which has an inexhaustible supply of raw materials of uniform power.

The most extensive use of diastase is in its application in the manufacture of alcoholic beverages from starch containing grains. The manufacture of alcoholic beverages from grain consists of two stages—first, the conversion of starch into sugar, which is done by the agency of diastase; and second, consists in the conversion of sugar thus formed into alcohol by the agency of yeast or alcoholic ferment.

In whatever part of the world you may go, people everywhere use more or less of alcoholic beverages. Before malt was manufactured, it is said that the diastase of saliva was utilized in making alcoholic beverages.

In Japan, and some other Asiatic countries, certain kinds of fungi are used in the production of diastatic substances which correspond to malt in this country. The fungus that has been in use in Japan is called *Tanekeji*, which was named by Ahlburg, *Eurotium Oryze*. It belongs to the genus *Aspergillus*, and is distinguished from ordinary fungus by its remarkable power of generating the diastase during its growth. My investigations show that there are various kinds of fungi that have similar properties to a greater or less extent. A certain desired species of fungus is isolated and purified by a method similar to that used in bacteriological investigations, and when isolated, it is propagated and nursed to its fullest extent by cultivating it on suitable substances, such as hominy or wheat bran, which, after being thoroughly sterilized, is well fertilized with mineral nutriment. The culture media, mixed with the spores, is now put into an incubator or growing room at the proper temperature and humidity. In about thirty hours the fungi shows its growth, and at the end of about five to seven days the growth reaches its maximum and the mass acquires a velvety appearance of color differing from yellow to reddish brown, according to species of fungi used. The mass thus obtained is thoroughly dried, and preserved for future use. The spores of the fungi may be separated from

the mass and preserved as an isolated form. Such a mass is called *Taka-Moyashi*.

In order to manufacture the diastatic substance for commercial purposes, wheat bran is found to be a very good culture media. The bran is first moistened with water to the proper degree and then sterilized by passing live steam through it. After cooling down to ordinary temperature, a small quantity of *Taka-Moyashi* is added and thoroughly mixed. The mass is then taken into a growing room, similar to that of malt floor, and spread in a layer of one to two inches in thickness. The temperature of the room is kept about 80°, and the humidity is at the point near saturation. In about twenty-four hours the fungus begins to show growth, and the temperature of the mass rises. The diastatic strength of the mass will steadily increase as the growth advances, and at the end of about forty-five or fifty hours, the diastatic power reaches its maximum, when it is taken out of the growing room and cooled to an ordinary temperature. The diastatic mass thus obtained is called *Taka-Koji*, and can be used as it is or dried for preservation. As the diastase generated in the mass is readily soluble in water, the mass can be percolated with cold water and the extract thus obtained used as a diastatic agent in the various industries in place of malt. This extract for the purpose of preservation may be evaporated into a thick syrupy condition, under a vacuum. It can be used in all industries, as in the manufacture of alcohol, beer, vinegar, etc., where the diastase performs the important function of converting starch into sugar.

The aqueous extract of *Taka-Koji* can still further be purified by precipitating the diastatic principle contained in it by the addition of strong alcohol. For this purpose, an extract containing about 20 per cent. of solid matter is mixed with sufficient amount of strong alcohol to precipitate all the diastase contained in it, thus freeing it from sugar and other impurities which remain soluble in the alcoholic mother-liquor. The precipitate is now decanted, filtered, pressed, and air-dried. The product thus obtained is called *Taka-Diastase*, and it is a yellowish-white, odorless powder, possessing a nutty taste. It is readily soluble in water, yet non-hygroscopic. It is perfectly stable in its diastatic power. It converts in thirty minutes over 300 times its own weight of dry starch into sugar, or over 2,000 times its own weight of cooked starchy food in thirty minutes.

The applications of *Taka-Diastase* are varied and extensive. Among other things, its use as

a remedy for amylaceous dyspepsia is of no small importance.

Considering the fact that more than two-thirds of our food consists of starch substances, such as potato, bread, pudding, etc., and also that the diastase of saliva has to perform the principal function in the digestion of starchy food, and that the saliva is subjected to various causes of loss and deterioration of its diastatic power from various causes, such as smoking, drinking, chewing, and rapid eating, it is not to be wondered at that two-thirds of the dyspepsia is of a starchy origin; and therefore it is apparent that some kind of strong diastatic substance is required to supply the deficiency of the diastatic power in the system of the digestive organs. While this isolated and purified form of diastase is entirely new, yet a diastase of its nature in a crude form has been in use as a food article in Japan for the last several centuries by forty millions of people, showing its perfectly harmless nature. This *Taka-Diastase*, besides its wonderful starch digestive power, is also capable of digesting some albuminoid food, as well, to the extent of one hundred times its own weight of albumen, according to official tests used for examination of pepsin.

The investigation in the way of the growth of different fungi has shown that not only is it capable of generating disease, but also it opens a way of producing all kinds of digestive ferments. While my investigation is still in its infancy, yet that which has already been found out on this subject seems to show that this has opened up a new field for the economical production of digestive ferments in general. I believe that this field will, in future, supersede the old known source of obtaining digestive ferments, namely, germination of cereals, as well as the extraction of digestive ferments from the intestines of different animals.

The result of its use within the past few years has proved its great value from a clinical standpoint, just as well as its diastatic power can be demonstrated in the chemical laboratory.

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TUBERCULAR SALPINGITIS AND PERITONITIS, WITH REPORT OF A CASE.*

By O. F. BLANKINSHIP, M. D., Richmond, Va.

I wish to speak of *tubercular salpingitis and peritonitis* chiefly from a clinical standpoint, and give the history of a case occurring in my practice which had considerable interest for me because of the difficulty of diagnosis.

I associate tubercular salpingitis and peritonitis because they are so frequently associated in the female. This was the case in the patient to whom I have referred.

Of course, we may have tubercular peritonitis in the male, but, according to statistics, it is much more frequent in the female—in the proportion of two to one. This *apparent* greater susceptibility of the female is no doubt due to the fact that the opportunities for recognizing the disease in this sex are more frequent because of the more frequent laparotomies done on the female, which expose the trouble.

We may have primary tubercular peritonitis, but this form is rather uncommon. Tubercular peritonitis is generally secondary to tubercular salpingitis or intestinal tuberculosis. We may have tubercular peritonitis as a part of a general miliary tuberculosis, or sometimes we may have tuberculosis of the serous membranes without any of the organs or other tissues of the body being likewise affected.

I wish to speak of the primary cases because of their obscurity and consequent difficult diagnosis. The case upon which I am basing these remarks I believe to have been *primary* in the tubes, secondarily involving the peritoneum. I believe the infection occurred at the time of or following a difficult instrumental labor.

Tuberculosis of the Fallopian tubes is not at all uncommon. Kelley operated on six cases in one year. Rokitsansky many years ago asserted that tubal tuberculosis was usually a primary affection. Of course, it may follow a tubercular peritonitis or any other form of tuberculosis. We may have auto- or hetero-infection. The mode of hetero-infection is, of course "per vaginam et uterum." The examining finger of the doctor, the surgical instruments used—especially during labor—or the puerperium, may be the means of introducing the bacilli tuberculosis. It is stated that, in women, from thirty to forty per cent. of cases of tubercular peritonitis are secondary to tubal tuberculosis.

The course of this disease is generally chronic, although some cases have been reported as having died in from twenty to thirty days after labor; but in such cases the fatal issue is supposed to have been partly due to general peritonitis.

Tubercular salpingitis is generally bilateral. It produces a most characteristic form of salpingitis, in which the tubes are enlarged, the walls thickened and infiltrated and nodular, and the contents of the tubes are cheesy looking.

The peritoneal form is generally divided into ascitic, dry, caseating, and fibroid, more frequent in negro than white. The more acute the attack the greater is the effusion as a rule.

I wish more especially to speak of the *chronic dry form* in this paper. This is characterized by larger growths, which tend to caseate and ulcerate. The intestines become glued and matted together, and perforations may take place between the coils.

The *symptoms* are very variable. Sometimes the process may go on without manifesting any symptoms. The more acute the case the higher the fever as a rule. Cases with a slow onset, abdominal tenderness, tympanites, and low continuous fever resemble typhoid fever very closely, and are often mistaken for it. I made this mistake at first in my case.

Tympanites is often present and is due to loss of tone in the intestines, caused by the inflammation. It was very marked in my case. In this case also diarrhoea was present from the beginning to the end.

Fever is usually pronounced—from 103° to 104° F. may be reached. In the more chronic cases, subnormal morning temperatures may occur. This was very marked in the latter part of my case. The range was phenomenal, ranging from 93° F. in the morning to 106° in the evening on several occasions—a variation of full 13° F. in twelve hours.

Another striking peculiarity is the frequency with which this disease simulates or is associated with tumor. In fact, this disease is often first recognized when an operation is being done for a supposed ovarian or other tumor. Fortunately, this does not make any difference, from the fact that laparotomy is the best treatment for tubercular peritonitis or salpingitis.

These tumors, or apparent tumors, may be due to several causes—

1st. The omentum becomes rolled upon itself, and generally lies transversely across the abdomen in the upper part of that cavity.

2d. The exudation may be sacculated by adhesions; this condition is very apt to be mistaken for ovarian tumor.

* Read before the Richmond Academy of Medicine and Surgery, April 12th, 1898.

3rd. The intestinal coils may be retracted and greatly thickened, forming a ball-like mass.

4th. The mesenteric glands may be very much enlarged, also forming tumor-like masses.

In speaking of symptoms, I neglected to speak of emaciation, which is constant, and increases till death.

Treatment is unfortunately very unsatisfactory. If the disease is diagnosed, we ought of course to use all the remedies which experience has taught us are beneficial in other forms of tuberculosis. I need not consume time or task your patience to even enumerate them. I wish only to speak of one mode of treatment which offers the most hope of alleviation or cure. I refer to *laparotomy*. It appears to be more efficacious in the ascitic than in the dry forms. It seems to operate by setting up a congestion in the peritoneum, which increases cell hyperplasia, which walls off the bacilli, and sets up a retrograde degeneration. Some suppose the air, admitted into the peritoneal cavity during operation, to be the curative agent, and have therefore punctured the abdomen and pumped sterilized air into the cavity. Some wash out the abdomen with distilled water until it returns free of albuminized fluid.

In the dry, fibroid or ulcerating variety, operations as a rule do very little good. In my case, which was of this kind, I attempted to do a laparotomy, but found out that everything was so matted together in the abdomen that we had to desist. There was temporary improvement, it is true, but it did not last long.

I will conclude with a brief history of my case.

On July 30th, 1897, I was called to see Janie O., negro, set. 19. She was in labor; primipara; very small frame; pelvis small, but symmetrical. Had been in labor for ten or twelve hours. Cord was prolapsed and pulseless. I tried to replace the cord, but the uterus was so firmly contracted on the child that I was not able to do so. Pains were ineffectual. After waiting several hours to see if it were possible for nature to deliver her, I found that the head was too large for the pelvic cavity. Applied forceps; though using all the force allowable, I could not budge the head. I then tried podalic version, but found it impossible to accomplish. I then performed craniotomy and delivered the child. There was partial rupture of the perineum, which was sewed up. The surroundings were not at all conducive to aseptic obstetrics. I directed antiseptic washes, which, however, were not used as often as directed. The patient had some fever, but returned to her duties as a domestic in three or

four weeks. I give this history to explain what I think was the source of infection.

On December 7th, 1897, I was sent for to see the same patient. She had become so weak that she was unable to perform her duties, and had to give up her place; she had dragged along as long as possible. I found her with a temperature of 104° F., tongue furred, pain in bowels, four or five actions in twenty four hours, a slight delirium at night. I diagnosed typhoid fever, and put her on appropriate treatment for that disease. In a short time her temperature fell to 101° in the morning. This continued till January 6th, 1898. This condition lasted so long, and there being no decided change, that I became dubious in regard to my diagnosis. There was some fixation of the uterus and some vaginal discharge. I decided to have her removed to the Virginia Hospital. This was done on January 6th, 1898.

As soon as possible, I got a hæmatologist to examine her blood by Widal's test for typhoid fever. He reported that, while the reaction was not very decided, he thought it a case of mild typhoid. I continued treating her for that fever. Diarrhœa and tympanites continued, with very offensive smelling stools. Now began the morning subnormal temperatures—

January 9. Morning, 96.8°; evening, 102°.

January 11. Morning, 101.2°; evening, 104.2°.

January 12. Morning, 96.4°; at 10:30 A. M. my thermometer would not register, so low was the temperature; 6 P. M. 103°.

January 13. 6 A. M., 99½°; 10 P. M., 104½°.

January 14. 6 A. M., 98°; 10 P. M., 105½°.

January 15. 6 A. M., 98½°; 1 P. M., rectal, 95°; midnight, 106½°.

January 16. 4 A. M., 106½°; 8 A. M., 102°.

January 16. 1 P. M., 94½°; 4 P. M., 97°.

About this time, we decided that if something radical was not soon done, we would not long have our patient with us. We decided that there was some pyemic trouble present—perhaps pus tubes; so we determined to operate.

On incising the abdominal wall, we found we could not enter the abdominal cavity on account of the adhesions and matting of the intestines. We sewed up the cut and put her back to bed, thinking she would be soon dead, but to our surprise, she rallied and seemed to be decidedly better for awhile. Her temperature ranged from normal in the morning to 102° to 103° in the evening, and her general condition was better. At the time of the attempted operation, we diagnosed peritoneal tuberculosis. I began treating her with anti-tubercle serum, but it did no good. She grad-

usually sank from inanition, and died on February 18th, 1898.

At the autopsy, we found the abdominal cavity filled with a solid mass of cheesy tuberculous substance; you could scarcely distinguish the different organs. The tubes were filled with a cheesy mass. I did not examine any of the other organs.

2600 East Broad Street.

MEDICAL JURISPRUDENCE OF INSANITY.*

By EDWARD C. MANN, M. D., F. S. S., New York, N. Y.

Physician in Chief to *Sunny Side Private Hospital for Mental and Nervous Diseases*; Author of "*A Manual of Psychological Medicine*," etc.

MORBID SEXUAL PERVERSIONS AS RELATED TO INSANITY.

Reliable facts are of course most difficult to obtain, and such figures reveal little of the real truth—the extensive mental mischief done—of which there can be no doubt whatever. These morbid sexual perversions are most commonly met with in a love of the same sex in both male and female subjects. They are generally associated with more or less mental weakness and a state of psycho-sensory insanity, and are the results of a faulty nervous organization. Although sexual perversion may not necessarily be by itself a perfect proof of insanity, yet in any given case where we find a female developing sexual love for one of her own sex, or a male subject, from childhood up, showing feminine tendencies, shunning boyish sports, assuming female costume, and developing platonic and sexual love for persons of the same sex, we may strongly suspect the existence of psycho-sensory insanity—by which I mean an abnormal state, in which there is a morbid perversion of the natural feelings, affections, inclinations, habits, moral disposition, and natural impulses, without any remarkable disorder or defect of the intellect or knowing or reasoning faculties, and without delusions. It seems to be a reasoning monomania and sometimes an erotomania. The conduct is affected more than the conversation, but the patient is none the less insane. We often find the dispositions and habits changed, the affections perverted, and, finally, either a maniacal excitement, during which overt acts of a destructive character are committed, or else a weaken-

ing of the mental faculties, ending in dementia. We may have an instinctive psycho-sensory insanity, hurrying the patient on to instinctive and automatic acts not preceded by reasoning, and a reasoning psycho-sensory insanity, determining acts which are the consequence of a certain intellectual operation. That a person premeditates a crime is no proof at all that such a person is not insane, as the insane premeditate very often the overt acts they commit, and where the compulsion of disease toward crime is so strong that the patient's will is weakened by the *vis-a-tergo* of the insanity.

There is the absence of self-control produced by disease, and the patient, though well aware that the act is wrong in some cases, has no power of resistance at all. The mental functions of feeling, knowing, emotion and willing are not performed in their regular and usual manner, and there is very often morbid delusive conception or perception of subjective origin, causing change of mental character as compared with former self or normal ancestral type, through organic conditions originating in disease within the system, external motives playing but a secondary part when they influence at all the mental conduct. Change of character is the ultimate symptomatic expression of insanity, change of mental conduct the immediate. The condition of mind is not voluntary; it is the product of disease. The most striking features of insanity in general, and the strongest proof of the presence of any of its forms, is the change for the worse that takes place in an individual's character and habits. Of course, when we have to deal with a congenital deficiency, the natural character itself being abnormal, this test does not apply. There is very often a true congenital moral deprivation, with strong animal propensities, which makes a person practically insane from birth. In these cases there is no sense of shame or remorse. Psycho-sensory insanity occurs frequently in early life. The intellectual faculties appear unimpaired. Both males and females appear to perfectly perceive, and know, and judge. There is no delusion, yet they are insane, and as much need medical care and restraint as the worst forms of mania. There is an entire perversion of the moral principle, and there are no good or honest sentiments. They are actuated by their impulses and by the most depraved motives, but it is disease, not crime, that they are suffering from. Many such cases, from being refined and virtuous, become coarse, depraved, licentious, dishonest and reckless. Some of them are incorrigible thieves; others exhibit morbid sexual

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perversion, manifested by love of the same sex, sometimes intense and pure, but more often intense and most impure. Sometimes we find masked epilepsy in these cases, destructive acts and gusts of passion taking the place of a well-marked fit. They are cases of *petit mal*, and are very dangerous. If such cases could be carefully studied, as they are not, as they rarely come under observation until they have committed some overt act, it would be found that a great many persons, perverse and capricious and depraved throughout their entire life, are really cases of psycho-sensory insanity.

In cases of morbid sexual perversions, we sometimes find a true erotomania, characterized by excessive love for an object, a mental affection, in which amatory delusions rule the patient, as religious delusions rule in theomania. It is different from nymphomania and satyriasis in that, in the latter affections, the disease originates in the organs of reproduction, a constant stream of irritative impressions being sent practically without cessation to the brain. In erotomania, the seat of the disease is in the brain itself. The two sometimes, however, co-exist, and patients will often pass far beyond the limits of propriety where we can find no trouble in the reproductive organs. I have in mind such a case at present, where, upon the advice of a celebrated gynecologist, the ovaries were removed and were found to be perfectly healthy, but the patient experienced no relief. After death, when the brain was examined, there was found an extensive area of what had been irritation and inflammation, followed by hardening of the most pronounced nature. In this case there had been many attacks of hystero-epilepsy. In erotomania there is depression of mind and body, emaciation, and, if a cure is not accomplished, the patient rapidly sinks and dies. We very often find erotomania following a religious melancholia, and it occurs more frequently in females than in males.

There are many women with perverted sexual instincts and a psycho-sensory inanity who, at each menstrual epoch, become possessed with a strong homicidal impulse, and those nearest and dearest are often the ones to suffer death at their hands, or perhaps any one who may at the time displease them. Revenge and other motives are not unfrequently mixed up in insanity with such symptoms. Usually, we think, there will be some decided evidence of heredity, or of a change in the feelings prior to the committal of the overt act, but there are many cases, we think, in which the

act, and the act alone, may constitute sufficient evidence of the insanity of the homicide. There are often active organic influences of a morbid nature which, though not externally noticeable, may, when disturbed and disordered at the moment of action, impel the person toward crime. In these cases I think there is generally a *petit mal*, and this disease often weakens volition without any external mental symptoms. In doubtful cases, it is very important to make the most searching inquiries as to whether epileptic seizures, however slight and transient, have been noticed. Sometimes a transient dizziness, or pallor, or a momentary mental blank, is the only indication of the existence of a masked epilepsy, and very frequently patients are only under the influence of destructive impulses when such an attack is threatened, and an overt act often takes the place of a fit in such persons.

I have a patient under medical observation and treatment at the present time who is highly educated, refined, and virtuous, and apparently normal in every respect, with not a trace of a delusion, and who is even morbidly sensitive as regards right and wrong; who suffers from epileptic vertigo, which generally comes on either before or after the menstrual epoch, and sometimes during the epoch; who has had strong compulsions of disease toward crime in the form of suicide, and who has been tortured by the thought that she might some day give way to it. It passes away almost immediately, and she is cheerful and sunshiny in the intervals between the paroxysms, and is a devoted wife and daughter. It must be a very simple thing for a homicidal to take the place of a suicidal impulse, and if she should ever in the future give way to such an impulse, the public and her friends would be greatly astonished, and perhaps refuse to believe her irresponsible for it, as they have never seen any indication of mental mischief. Every physician, however, can see that the question here should be, not could she distinguish between right and wrong at the time of the commission of the overt act, but, could she help it? Could she avoid the compulsion of disease toward crime? Was the act the outcome and product of the epilepsy? No act which is the product of disease of the body affecting the mind by deranging its functions and causing a suspension or impairment of the healthy intellect, the emotions, or the will, can be construed into a crime, and physicians should always voice this in the court room when they have to give their professional opinion.

It is time that the laws should be amended

to keep pace with medical science, and the absurd right and wrong test of insanity, which is no test at all, as every progressive physician knows, should be relegated to the dark ages, where it properly belongs. Two-thirds of the insane know the difference between right and wrong as well as the sane do, but there is the absence of self-control produced by disease of the brain. Shall we strangle sick people to death in obedience to traditional dogma? It is time for the medical profession to come to the front and voice science in this matter. A scientific truth is never a dangerous doctrine, and we are bound to go where science leads us if we are true followers of the noble profession of medicine.

There are, unquestionably, instinctive monomanias, free from all complications. Associated with pathological sexual perversions, we find the abnormal mental ideas, born of insanity, tyrannizing over the patient's thoughts and acts, and a psycho-sensory insanity—an insanity of conduct, feeling or impulse, or all combined, without such appreciable intellectual derangement that it would be recognized as insanity without the display of morbid feeling, impulse, or conduct.

The great diagnostic mark in these cases is the predominance and overshadowing and overmastering character of the aberration of the moral faculties over the faculties of the understanding. It is seen in action and conduct, rather than in words. There are morbid changes in the appetites, propensities and feelings. These cases are less understood and studied than other victims of mental disease, because, as we have said, they are rarely brought into notice until an overt act is committed by such a person. Imperative conceptions and morbid impulses are very characteristic of this class of cases. The morbid mental condition of these cases of psycho-sensory insanity is a basis fact in psychiatric symptomatology which cannot be reasoned away. Delusion is comparatively exceptional, while perverted feeling and conduct is never absent. The wishes, inclinations, attachments, likings and dislikings, are morbidly changed, and this change appears to be the origin or to lie at the very foundation of any disturbance which the understanding itself may seem to have sustained, and even in many instances to form throughout the sole manifestation of the disease of psycho sensory insanity. In one instance, I have known of this morbid sexual love for a person of the same sex, starting, probably, with some one girl, of a faulty nervous organization, in a young ladies' semi-

nary—almost assuming the form of an epidemic (genetic erethism)—and several young ladies were brought up before the faculty and were told that summary dismissal would follow if this were not at once dropped. The terrible mischief which was thus arrested, and doubtless originated with an insane girl, in this case evidently assumed an hysterical tendency in others not insane, but who might have easily become so if they were neuropathically endowed, as they doubtless were. Sometimes, in cases of masturbation, perverted sexual feelings, such as forming morbid attachments for persons of the same sex, are quite marked. Dementia and death is generally the end of these cases, unless the general health is improved and the weakened will-power strengthened.

A nervous temperament, stimulating diet, improper associations and training, obscene literature, an arrested cerebral development, partial phymosis, with hyperæsthesia of the glans penis, are some of the most frequent causes of this sexual vice. Masturbation is an exciting cause of insanity; the general health of insane masturbators is always impaired; the diagnosis may be difficult at first, but is easy after the first stage; the prognosis is very unfavorable unless the practice is stopped; daily exercise to the point of fatigue is essential to treatment, and tinc. gentian comp. seems to be the most valuable tonic to employ, with a nutritious diet, but no stimulants—tobacco or coffee—and work of some kind is a necessity for these patients. It may be noticed that a genetic erethism may reign as an epidemic at times. It did so in antiquity, in the Middle Ages, and in modern times. Julius Cæsar, Augustus, Tiberius, Caligula, Claudius, Nero, Galba, Otto, Vitellius, Titus, Domitian, Elagabalus, Trajan, Adrian, and Commodus were given over to ferocious and brutal sensuality, which was due to their hereditary organization. Likewise Agrippina Messalina, Poppæa, Domitia, Sœmis, the two Faustinae, Crispina, Titiana, the two Juliae, Noua, Celsia, and Lucillæ, Roman empresses, all corrupt women, with aberrations of the genital sense.

In the Middle Ages, there was the belief in demons transformed into men for the service of women, and demons transformed into women for the service of men. There were neuropathic epidemics of every sort. Maria of Aragon, Joanna of Naples, Sextus IV, Julius III, Francis I, Henry III, Henry IV, and Louis XIV, all showed morbid sexual perversions. In modern times we find the same thing during the regency and reign of Louis XV, commencing with Philip of Orleans. The

Princess Elizabeth, daughter of the Regent, Queen of Spain, the Count de Charlais, and the Marquis de Sode, all abandoned themselves to abnormal sexual perversions and scandals. Some of these cases probably belonged to atavism and some to pathology. Diseases of the genital organs may produce masturbation, nymphomania and satyriasis, but in general pathological sexual perversions we think the brain and nervous system primitively and principally affected, and these psychical disorders are sometimes incurable. Heredity is a strong cause, and there is a correlation of morbid force in disease which may give us a transformation in heredity. Whether the median lobe of the cerebellum is at fault in these cases, as has been asserted by Valentin, Wagner, Susanna, and others, I do not pretend to say, and I do not think we know. We find, in the insanities in which the sexual functions are concerned, intellectual anomalies, insanity of puberty, post-cannibal insanity, insanity connected with the menstrual period, with the menopause, erotomania, nymphomania, satyriasis the psycho sensory insanity with pathological sexual perversions, and, finally, violation or rape.

There are certainly pathological perversions of the sexual sense in which these passions assume a morbid character and give rise to a true partial delirium, limited to the genital sense and sparing the integrity of the other faculties of the mind. Menstrual disturbances are a fruitful cause of psychical abnormalities and also ovarian affections. Many homicides and suicides owe their origin to erotic conditions and erotic delirium, while nymphomania transforms the most modest woman into the most degraded one. I believe that, in all cases of pathological sexual perversion, science could, if it had the opportunity, detect profound alterations in the brain or in other parts of the human body. It is very important to ascertain in all these cases, if possible, if there has been freedom of the will, or whether disease has produced a compulsion toward crime which the will was powerless to restrain, and I think it very possible to do this. We certainly find apparently sound reasoning power with the most profound pathological sexual perversions in many cases—a truly psycho sensory insanity—an insanity of conduct, feeling or impulse, or all combined.

When these insanities have a purely physical origin, the prognosis is favorable; when the origin is psychical, it is unfavorable, and where the origin is at once psychical and physical, the case is almost incurable. If very careful

search be made, I think it not uncommon to find slight disorders of the intellect, which would, however, attract no notice at all from those not skilled in psychiatry. It is very important to distinguish psychic atavism, which is the sudden return of the most remote psychic characteristics in men and women of the highest races, from cases of psychological aberration. That there is this regressive phenomenon of thought or feeling, or of both these momenta of nervous life, there is not the least question. It is not always easy to make a clear and precise distinction between a psycho-pathological phenomenon and an analogous one of regressive atavism; frequently it is very difficult, and in some rare cases it is impossible, the phenomena being identical in form, degree, result, and permanence.

The pathological phenomenon, much as it may resemble the atavic phenomenon, is essentially different from it. The criminal may be a sick man or a man in the most robust health, and his crime may belong either to pathology or regressive atavism. We may have a criminal monstrosity, a type of atavism and a psychic monstrosity showing repulsive acts of crime and moral degradation, but not a true criminal at all. The force of inertia may keep psychic phenomena from appearing for an indefinite time, but psychic atavism discloses them sooner or later. To lie concealed does not mean to be destroyed. Christian civilization has taught the cerebral moderating centres to hide the genital, the cruel and the filthy atavism, but this appears when these centres cease to act, or the automatism of old and latent force succeeds in overcoming it. An insane man becomes a murderer (like his ancestors, when primary man lived, defending himself against animals and men, and hunting and fighting was his principal occupation) because atrophy or degeneration of the moderating centres annuls suddenly the whole progressive evolution of civilization; on the other hand, a sane man kills his fellow-man, oppressed by an intense hatred, which, by its extraordinary power, silences the action of the moderating nerve-cells.

This example enables us to distinguish, in a measure, between atavism and pathology. The first of the two murderers, being diseased in mind, belongs to pathology, and is not responsible, because there is loss of self-control produced by disease, and his act is the product of disease. The second is perfectly healthy, and belongs to normal psychology, and hence to man's tribunal, offering us a fact of psychic atavism. The close relation between cruelty

and lust, which I have mentioned in some of the Roman emperors and empresses, also forms part of the history of psychic atavism. Many sexual perversions have in them atavic influences, often very difficult to separate from the pathological element, but I think that this can generally be done by very careful investigation, and it is very important not to confuse atavism with pathology in medico-legal study and investigation.

Sexual influences, in connection with insanity and crime, are not sufficiently studied. In many of these cases there is a strong and sudden revulsion of feeling, in which love and confidence are succeeded by the deadliest hate. There is more or less mental disturbance exhibited, not so much in the form of delusion as in that of paroxysmal fury and uncontrollable criminal impulse. In these cases, there seems to be an entire abandonment of every interest and feeling not connected with the single purpose of revenge. The person gives herself up to justice, glories in the bloody deed, and is careless of the future. An overt act, not to be distinguished at first, perhaps, from the ordinary criminal deed, is often prompted more by these physiological movements, characteristic of the female constitution, than by well-considered motives, or strong, healthy feeling. With women, it is but a step from extreme nervous susceptibility to downright hysteria, and from that to overt insanity. In the sexual evolution, in pregnancy, in the parturient period, in lactation, strange thoughts, extraordinary feelings, unseasonable appetites, and criminal impulses may haunt a mind at other times innocent and pure. We must never ignore the presence of the sexual element in the phenomena displayed by this class of cases, as nervous erethism, excited even by courtship, has a controlling influence over the female will. The common reluctance to attribute insanity to this class of persons arises principally from the fact that they act from a rational motive—revenge—but this is not at all incompatible with insanity, as the insane often act from rational motives, and premeditation and revenge are met with very frequently in the insane. We must also bear in mind that these cases are often persons of a naturally irritable and nervous temperament; a neuropathic constitution needing but a slight exciting cause to induce insanity. The Alice Mitchell case in Memphis, Tenn., is a very good example of this class of cases.

INTESTINAL ADYNAMIA.

By WM. S. STOAKLEY, M. D., Millboro Springs, Va.

Saying nothing of mechanical causes which obstruct the natural lumen of the bowels, and cause the arrest of feces and flatus, a study of the subject as above captioned is of great interest.

In the March number, 1898, of the *International Journal of Surgery*, appears an unusually interesting article from the pen of Dr. Wm. H. Meyers, of Fort Wayne, Ind., on this subject.

Who is not cognizant, now-a-days, of the great number of nerve-strains, and who fails to note, along with these, a general complaint of intestinal inertia? Whilst the name of the results of these strains is "legion," what one is more common among them than *constipation*—the effects of which is felt from the soles of the feet to the crown of the head?

The cold feet, and numb feeling, with the prominent head symptoms, prompt doubtless the exclamation: "Tired all over."

When we discover the causes of the universal complaint of nervousness, we will be directly on the track of a common cause of constipation, one of the great factors for hot-beds of auto-infection; and should we ever be able to remedy this complaint, truly we will have made a great advance in hygiene, as well as have secured telling command of the drug-habit.

Of course the dynamic capabilities of the muscles vary from mere nervous perturbation to complete loss of nerve-power, disclosing all degrees of intestinal incapacity. We may have a catarrhal condition of some portion of the canal, or an uncontrollable flux, followed, in time, by total paralysis of the muscular power of the bowels, as complete, as to expulsion of contents, as if they were occluded mechanically; and this condition occurs, as we are induced to think, where there is undiminished lumen.

Dr. Meyers gives Dr. Henri Henrot's classification of all cases of paralysis of the intestines leading to obstruction:

1. Direct paralysis of a segment of intestine due to changes in its walls.
2. Indirect paralysis, depending upon reflex nerve action.
3. Paralysis of the bowel in a general affection of the nervous system.

Adynamic conditions of the intestines may sometimes appear slow in the disorganization of the health forces; but when obstruction occurs, we feel sure (either as cause or result) that peritonitis is imminent.

Inactive intestines are not grateful to neighboring serous membranes. There correlative dependence for health is quickly seen in obstructions.

Serous membranes appear to be exquisitely accurate as to their correlative relations. They will inflame or swell, as the case may be, when loss of balance in this relationship occurs; and the results—pus or fluid—once in the sacs, they declare in a peculiar or positive fashion the necessity of an outlet.

All affections of the bowels appear to be of more interest now than formerly, because of the advances in surgery; but as the knife advances, and shows us what can be done in the way of excision of dead, and dying parts, and drainage from the same of toxic elements, it also tells us a tale of conservatism—what can, and should be left alone to nature's reparative powers, aided *secundum artem* with drugs, etc.

In the category of cases of the latter, it can scarcely be denied that paralysis of the intestines, with undiminished lumen, belongs when caused by loss of nerve-force.

If, in the muscle of the eye, ptosis gives an illustration of partial loss of nerve-force, to be remedied by giving proper tone to the general system, why should not this occur in the intestines?

"A rigor," says Dr. Meyers, "may usher in peritonitis, but not obstructions. The temperature in serous inflammations is often subnormal. This is rare in strangulation."

Where is the trouble—in the small or large intestines?

"In obstructions of the small intestine:

1. The pain and other symptoms are more acute, and the course more rapid.

2. Vomiting is early and urgent.

3. The urine is scanty.

4. Distension is early, but not excessive, and affects the small intestines alone."

"In obstruction of the large intestine:

1. The pain and other symptoms are less acute, and the course more gradual.

2. Vomiting is long delayed, or of little severity.

3. The urine is abundant.

4. Distension occurs only after an interval, but reaches an extreme degree and affects especially the large intestine, so that the transverse colon may be seen crossing the upper part of the abdomen, and there is fullness in one or both loins."—(Dr. M.—e. c.)

As to treatment: This is a difficult undertaking on account of chronic habituation to the ways of strained and unstrung nerves;

proportionally "angular," oftentimes to their loss of vim.

Hygienic measures, properly carried out, will do something in the way of a foundation for certain drugs in bringing back lost tone; and the patient should understand in the beginning that success will depend on himself quite as much as the doctor—in the way of carrying out the directions of the latter, though they may tax his self-control severely.

When there is complete loss of peristaltic action, judged so to be from loss of nerve-force, of course the knife cannot better matters and an operation would be useless.

Analyses, Selections, etc.

Stomach Ailment from Nasal Secretion.

Dr. Thos. F. Rumbold, St. Louis, Mo., says (*St. Louis Med. and Surg. Jour.*): The stomach is the next locality irritated by the nasal secretion. To this place the secretion has for from twenty-five to fifty years been continuously, day and night, passing in a stream—sometimes so small that it can hardly be seen; sometimes from one-quarter to one inch in width, and so thick as to change or even hide the color of the mucous membrane of the fauces. If a small quantity of this secretion is placed under a microscope, myriads of microbes are seen, and almost myriads of kinds. To Dr. Rumbold, it is no wonder that some ailments of the stomach assume so many phases, and that they are so difficult to treat successfully as a primary disease.

Like its companion, nervous prostration, the disease thus produced in the stomach is always worse in the spring and fall; that is, during the seasons when colds in the head are most frequently taken. At these times, the nasal secretion imperceptibly flows down from the nasal passages into the stomach. Many persons, either consciously or unconsciously, draw the nasal secretion down from behind the soft palate into the throat and then swallow it. This cannot be done year after year for ten to forty years without producing an abnormal condition of the stomach. The very fact that such patients are worse spring and fall—for during these times they always have colds, and are daily swallowing nasal secretion—should indicate to every one that it is due to the deglutition of this decomposed, irritating nasal down-flow. If this continual poisoning did not have this effect it would be marvelous.

What has been a continuous wonder to Dr. Rumbold is the entire absence of any remark made in medical societies and in medical journals of this most common cause of disease of the stomach.

Organization and Management of State Medical-Military Sub-Depots in War Time.

Surgeon John Van Rensselaer Hoff, U. S. A., has prepared a paper for the next meeting of the Association of Military Surgeons, U. S., which is of present interest. From *Medical Record*, April 16, we compile the following:

In spite of our boasted civilization, man is instinctively a fighting animal. But war is no longer a mere question of the man; it is one of the material of the organization—of the numberless *inanimata* which make a part of the art of war. These are not the creation of a moment, but follow careful preparation and accumulation—the results of experience, study and opportunity.

The sanitary department has no small share in this work. Civilization demands that the fallen shall be carefully conserved.

For an army in active service, about 6 or 7 per cent. of its strength is connected with the medical department. In any future war, it is reasonable to assume that this department will recruit and train its own *personnel*. It goes without saying that there must be some place where such preliminary organization and instruction can be secured. This place may be called the *State medical military sub depot*. This place should be at the general recruiting centre of the State; but the medical sub-depot should be, as nearly as possible, independent of the other departments of the army. It should be under the orders of the military depot commander, though for administrative purposes only. Everything pertaining to the sole object of the sanitary or surgical department should be in the hands of the sub depot medical officer, under direction of the surgeon-general of the State.

The first thought of the medical department must be given to providing for the care of the actual sick, and temporary hospital accommodations promptly supplied for at least two per cent. of the probable garrison. This field hospital of canvas should be followed as soon as possible by a more permanent structure; *pari passu*, quarters for officers and men, storehouses, bakery, mess hall, stables, etc., should be erected.

The work of the medical sub-depot is to be considered under the two heads—

1. Care of the sick of the garrison.

2. Instruction of recruits for the hospital corps.

The duties will be both administrative and executive.

In military parlance, *administration* means the direction or management of a body of troops. It formulates the regulations and orders to govern the command, which the troops execute.

The *administration* of the medical sub-depot will require, beside the commanding medical officer, several other officers, non-commissioned officers and privates of the hospital corps.

The *instruction department* will require about one officer to every fifteen men, and one non-commissioned officer to every five men.

It may be assumed that the State military authorities will have anticipated the proposed organization, so as to have directed the following to report at the earliest possible moment to the general commanding:—

Administration: 1 lieutenant colonel, medical department, executive officer; 1 captain, medical department, adjutant and medical supply officer; 3 hospital stewards, 3 acting hospital stewards, beside the quartermaster, subsistence, ordnance officers and non-commissioned officers and the necessary number of private soldiers as clerks, artificers, orderlies, cooks, waiters, etc., etc. Upon their reporting, the officers are at once assigned to their indicated duties, and as many non-commissioned officers and men as deemed necessary are detailed to the respective departments.

The *first consideration of the medical department* is to provide hospital accommodations for the estimated sick of the command—not less than 2 per cent. of its total strength. The medical officer makes requisition upon the quartermaster (assuming a garrison of 10,000 troops) for tentage and other quartermaster supplies for 200 patients, say: Hospital tents, complete, 54; wall tents, complete, 9; common tents, complete, 20; beside the necessary cooking and heating material, fuel, lighting, forage, horses, harness, ambulances and other wagons, clothing, equipage—in fact, *everything except medical supplies, ordnance and subsistence*. Each tent should be floored with tongue-and-groove flooring, and properly heated and lighted. Furniture, bedding and other interior fittings are also required—beside the medicines, dressings, surgical instruments and appliances, special diet stores, etc.

The commissary officer arranges for the subsistence.

The *personnel* of the hospital required for a garrison of 10,000 troops should consist of 1

major-surgeon commanding; 2 other major-surgeons; 3 captain assistant surgeons, and 3 lieutenant assistant surgeons—in all, 9 *medical officers*.

The hospital corps should consist of 2 hospital stewards, 5 acting hospital stewards, 35 nurses, 4 cooks, 9 attendants, 9 medical officers' orderlies—in all, 64 *non-commissioned officers, men, etc.*

While these temporary arrangements are being effected, preparations for more permanent buildings are made to accommodate 200 beds. These buildings, with the tent hospitals in reserve, will meet all demands that the sick of the station are likely to require.

There remains now to be organized the *ambulance companies* and the *field hospitals*. The Association of Military Surgeons, U. S., 1897, recommends that the personnel should be distributed as follows:

For each ambulance company: 1 major-surgeon commanding, 1 captain assistant surgeon, 1 first lieutenant assistant surgeon—3 medical officers in all; 1 first lieutenant quartermaster, 16 non-commissioned officers, 2 buglers, 2 artificers, and 64 privates.

For each field hospital: 1 major surgeon commanding, 1 captain assistant surgeon and 1 first lieutenant assistant surgeon—3 medical officers in all; 8 non-commissioned officers, 1 artificer, 48 privates.

Turning attention now from the administration, we come to the *department of instruction*—for training the various sanitary units required by an active army. These units are: The station hospital, the ambulance companies of the hospital corps, and the field hospitals.

Proper provision having been made for quarters, subsistence, etc., consideration is next given to the means to be adopted for discipline, training and instruction which is to convert the crude recruit into the finished *sanitary soldier*. Much depends upon a proper beginning.

How would a medical officer proceed who is ordered to organize and command an ambulance company? He has first to make a framework of some eighty citizens who enlist. Probably two or three physicians have reported. These, with the senior non-commissioned officer whom the commander selects as practically the company's adjutant, compose the material. Considering the work and equipment of the company, there is room for a non medical officer—a lieutenant quartermaster—to take charge of property and transportation.

The company, thus composed, should be divided into two platoons, each under a medical officer. A transport detachment should consist of 3 non-commissioned officers, 1 black-

smith, 1 saddler, 1 bugler, 14 drivers, 1 cook, and 2 supernumeraries, under command of the quartermaster.

The *field hospital detachments* are to be arranged on the same lines. The *transport detachment with this organization* will consist of 4 non-commissioned officers, 1 blacksmith, 10 drivers, and 2 supernumeraries.

Generally, the recruits assigned to the hospital corps have had some training in civil life as druggists, clerks, nurses, mechanics, hostlers, cooks, etc. "With intelligent and zealous volunteers, discipline becomes mainly a matter of instruction and guidance."

The training of the sanitary soldier must be military as well as technical. His work is often done upon his own responsibility, away from the eyes of his superiors, and often under circumstances of extreme danger. He should be thoroughly drilled in the school of the soldier and the company. He should be taught the manual of arms and the use of the rifle, "for though he will ordinarily neither carry nor use firearms, it is held that no man can be a soldier who is unfamiliar with them." He should be taught how to care for himself under the peculiar and varying conditions of his new life. He should learn to cook his rations. His technical training will be imparted through lectures, recitations, demonstrations, and practical work. He must be thoroughly taught first-aid and nursing, which include a sufficient knowledge of simple anatomy, physiology, pharmacy, diet cooking, bandaging, etc.; he must know the appliances of the medical department—particularly those pertaining to the field. His instruction in field work becomes of the utmost importance, such as pitching and striking tents, loading and unloading wagons, the particular work of the various sanitary units, the care and driving of animals, etc. "Bearer drill"—the best method of transporting the ill and injured—is a very important part of this training.

The routine of a days' work in the training school of the sanitary soldier would be somewhat as follows: 5 A. M., reveille; 5:15 to 5:30, "setting up" exercises; 5:30 to 6, breakfast; 6 to 7, fatigue; 7 to 8, study hour; 8 to 9, infantry drill; 9 to 10, recitation in nursing; 10 to 11, study hour; 11 to 12 M., recitation in first-aid; 12 to 1 P. M., dinner; 1 to 2:30, "bearer drill," litter, ambulance, travois, etc., as soon as possible combined with first-aid; 3 to 4, formation of ambulance and dressing stations, alternating with the pitching of field hospital; 4 to 4:30, practical bandaging and splinting; 5 to 5:30, supper.

As soon as the men become sufficiently in-

formed, some would be detailed each day in the station hospital for practical instruction; others would be detailed in the mess hall and kitchen; others in other departments, etc., until a fairly comprehensive knowledge of the required work would be gained. With such preliminary training, the sanitary recruit would join his command with an immense advantage to himself and to the service.

Our military sanitary corps must hereafter be distinct and separate from all other branches of the service. Its organization and training must begin with the State medical departments, and its recruitment must be continued by them. *Ambulance Co., No. —*, must be just as distinctive in a State military organization as the first or tenth regiments of volunteers; and *Field Hospital, No. —*, as Light Battery A (State) artillery. By some such organization, and only such, can our sanitary corps reach the highest efficiency.

Remedial Measures in Obstruction of the Common Bile Duct.

The following is an abstract of a paper read before the American Surgical Association, April 20, 1898, at the New Orleans meeting, by Dr. J. McFadden Gaston, Professor of Principles and Practice of Surgery, Southern Medical College, Atlanta, Ga. :

The cases of jaundice which result from the temporary closure or constriction of the common bile duct are usually left to the treatment of the physician, and yet are the precursors of derangements which require surgical interference; hence they come within the sphere of this paper. They commence with functional disturbance, but terminate in organic derangements.

Murphy lays great stress upon the *relief of jaundice by pilocarpine*. The reliance of the greater number of practitioners for relief in this class of cases has been and continues to be upon the *phosphate of soda*. But there have been more good results claimed from the employment of *olive oil, internally*, than from any other remedy of this class. After exhausting medicochirurgical means of treatment for biliary complications, without arresting obstruction of the common bile duct, the surgeon is confronted with conditions calling for *operative interference*. There may exist a stenosis or stricture of the walls of the duct, without occlusion of the canal, dependent upon inflammation; or there may be a partial obstruction of the lumen of the duct from the presence of a gall-stone which permits the bile to pass around it to a limited extent. In some cases, Fenger has demon-

strated that a gall-stone may be so located as to form a valvular closure. Though an outlet may be artificially provided for the bile by connecting an opening in the gall-bladder with one in the abdominal wall, there is not always relief to the cholæmia, and its effects upon the general health of the patient continue even to a fatal termination. In a case presenting no enlargement of the liver, the incision should be made on a line an inch and a half below the border of the costal cartilages, and should be about three inches in length.

Dr. Gaston has elsewhere given an unfavorable opinion in regard to exploratory puncture, and does not consider it entitled to recognition as a means of diagnosis or measure of treatment. The various measures recognized for the relief of obstruction of the common duct by gall-stones are breaking up the calculi by the needle, crushing by padded forceps, forcing them into the gall-bladder or duodenum by catheterization, and excision through the walls of the duct. In some cases it is impracticable to attach the gall-bladder to the parietal opening or to suture the incision in the wall of the duct when a stone is extracted; thus it becomes necessary to provide for drainage by packing with gauze, around the field of operation, and leave the ends of the strips extending out of the wound.

In doing operation upon three white women for obstruction of the common bile duct by forming a fistulous opening for the bile externally, the cholæmia persisted in an aggravated form until death supervened in each case. In some conditions of temporary impediment to the flow of bile through the duct into the duodenum, the attachment of the incised gall-bladder to the parietal opening has relieved the obstruction and been followed by the restoration of the bile. It is in order to state that only in complete occlusion of the duct, which has proved intractable to other procedures, has an artificial opening from the gall-bladder or the common bile duct into the alimentary canal been thought proper.

This anastomosis is effected in various ways, either with the duodenum, the small intestine or the colon, the last named being least desirable, as it fails to secure the advantages of the bile in the process of intestinal digestion. Dr. Gaston's experiments upon dogs demonstrated the feasibility of this fistulous communication of the gall-bladder with the bowels, and it is a matter of minor importance by what process it is accomplished.

The statistics in the past show that the various modes of procedure are comparatively free from danger and are attended with a marked

degree of success, so that we may reasonably expect cholecystenterostomy to be recognized as a safe and efficacious recourse in the future annals of surgery.

Hydrozone for Genito-Urinary Tract Disorders.

Dr. John Aulde, of Philadelphia, (*Med. Times and Reg.*) about ten years ago, was forcibly impressed with the value of peroxide of hydrogen in a protracted case of *gonorrhœa*. The disease had persisted for three months despite the treatment of several attendants, there being a constant discharge, and in addition, there was an orchitis present, the left testicle being about as large as a base-ball. Treatment consisted of the local use of injections of equal parts of peroxide of hydrogen, and moderately warm water, used at intervals of four hours, these injections being followed by a solution of arsenite of copper containing one milligram (one 65th grain) to the drachm, diluted with an equal quantity of hot water. In a week the patient returned to his home in a distant State, the urethral discharge having entirely ceased, and pain and chordæ having disappeared.

The author advises the same treatment for *non-specific urethritis* and *gleet*; but as *hydrozone* is much stronger (2 times) than the peroxide, and perfectly harmless, he gives it the preference.

In *vaginitis* and *vaginismus*, this treatment is of especial value. The treatment heretofore recommended (consisting of hot vaginal douches, with or without some alkali, as sodium bicarbonate, followed by injection of a small quantity of peroxide of hydrogen (medicinal) in warm or cold water) is superseded by the *single application of a hot solution of hydrozone*, one part in eight. A fountain syringe should be hung upon the wall about six feet from the floor; the patient sits upon a suitable vessel, and introduces the rubber tip of the hose well back into the vagina, while the labia are compressed by the disengaged hand; this allows the solution to so distend the vagina as to bring it in contact with all the diseased tissue. The injection should be repeated twice in twenty-four hours.

In *uterine diseases*, where the solution must be brought into contact with the endometrium, the following treatment is pursued: The patient is placed in the dorsal position, with the hips well elevated; an ordinary dilator is employed to distend the cervix, so as to admit the nozzle of the syringe and permit the free egress of the injected fluid; (a suitable return flow tube can be used to better advantage, the Fritsche's douche is the best that can be used). The injection is then made, a liberal amount of the hot medicated solution being used.

There is need of caution in chronic cases, that the *effervescence*, which attends the destruction of the unhealthy tissue, does not force some of debris into the Fallopian tubes. This is best avoided by using a large quantity of the solution, and afterwards directing the patient to assume the upright position. The pressure thus brought to bear upon the uterus will cause the complete discharge of all debris.

A preliminary vaginal douche should all ways be taken, using the medicated solution, as otherwise, harm might ensue by the entrance into the uterus of the vaginal secretions. The author warns against the use of the *vagina-douche* if the cervix be patulous, as there is an almost certain danger of the infected vaginal debris being forced into the uterine cavity. To avoid this the vagina should be cleansed by the local use of the medicated solution through the speculum.

The author believes *hydrozone* to be the best remedy for *cystitis* occurring either in the male or female. The bladder should be washed out with the solution (one to eight) a small quantity being used at first in chronic cases, owing to the painful muscular contractions following the withdrawal of the solution. The amount can be gradually increased. (A double current hard rubber catheter should always be used for that purpose). In *gonorrhœa*, *gleet*, and *cystitis*, the local treatment is oftentimes aided by the internal administration of hourly doses of calcium sulphide one tenth of a grain.

Klebs' Recent Investigations of Yellow Fever.

It is well known that in Germany Prof. Edwin Klebs is regarded as one of the three of its most eminent pathologists. He is best known in this country in connection with the discovery of the diphtheria bacillus, known as "Klebs' bacillus."

During the last few months, in his laboratory at Chicago Post Graduate School and Hospital, Professor Klebs has been making some very critical investigations in the effort more fully to determine the cause of yellow fever. On March 5th, he presented a most important paper at a meeting of the physicians in attendance upon a post-graduate course, at the Hospital. Its importance is derived from the fact that Prof. Klebs was able, by means of microscopic specimens, to point out bodies which had not been hitherto described and which he does not as yet find elsewhere, than in organs of those who had died of yellow fever.

Having obtained portions of all the organs of two cases of yellow fever patients who had died of the typical form of the disease, he made from them a multitude of sections, and has spent

months in their examinations. He did not succeed in finding the bacillus described by Sanarelli nor the X-bacillus of Sternberg, but he did succeed in finding peculiar bodies in the stomach, duodenum and liver of twice the size of red corpuscles. He believes they belong to the protozoa. He thinks their discovery due to the use of a new staining method which he has developed during the last month. Besides these structureless bodies, he found a true sporulating form with many sporules in the duodenum. These were found in both cases while control experiments gave negative results. These bodies have not before been discovered and described owing, no doubt, to the lack of a suitable staining method.

While Prof. Klebs believes these bodies to be the cause of yellow fever, yet he distinctly states that he desires to withhold any definite claim until cultures and animal experiments can lead to positive conclusions. The discovery of these bodies will mark it as a most notable event, if, as the result of further investigation, they shall prove to be productive of the disease.—*N. Amer. Prac.*, March, 1898.

Hypertrophy of the Lingual Tonsil.

The following is an abstract of a paper read by Dr. E. C. Ellett, of Memphis, Tenn., before the recent session of the Medical Society of the State of Tennessee, held in Jackson April 12-14, 1898:

The study of the lingual tonsil dates from its discovery by Heyman and Stoerck in 1877 and its study by Lenox Browne in 1880. It is the anterior portion of Waldeyer's oro-pharyngeal ring of lymphoid tissue, and lies at the base of the tongue, behind the circumvallate papillæ, and in front of the epiglottis. It is of the same histological structure as the faucial tonsils, and is abundantly supplied with vessels and nerves.

Hypertrophy occurs most frequently in women, and between twenty and thirty years of age. Other causes are naso pharyngeal, buccal and dental lesions, syphilis, scrofula, lithæmia, menstrual disorders, alcohol and tobacco, use of the voice, and exposure.

The symptoms are—

- (1) A sensation of a foreign body in the throat.
- (2) A feeling of constriction at the upper border of the thyroid cartilage, globus hystericus.
- (3) Reflex cough.
- (4) Constant and ineffectual efforts to clear the throat.
- (5) Quick laryngeal fatigue.

(6) Hemorrhage.

The treatment, in addition to appropriate constitutional remedies, consists in promoting absorption by applications of Churchill's tincture, or in removing the tissue by the galvanocautery or a curved tonsillotome.

Artificial Serum in Toxæmia.

There is a steadily growing body of testimony as to the value of subcutaneous injections of artificial serum in eclampsia and all cases of toxæmia. The best fluid for injection seems to be a modification of Ringer's fluid as advised by Edes (*Boston Med. and Surg. Jour.*, March 4th, 1897.) It consists of:

Calcium chloride.....	0.1 gramme.
Potassium chloride.....	0.75 grammes.
Normal salt solution.....	1.000 c. cm.
(75 per cent. solution.)	

The fluid should be injected slowly into the cellular tissue, not into a vein. Absorption from the cellular tissue is very rapid, and the injection is not accompanied with the same danger as in direct injection into a vein. The method is worthy of a wide trial in toxæmia, and especially in uræmia, and seems to offer a chance of recovery to many almost inevitably fatal cases.—*Canad. Prac.*, April, 1898.

Diagnosis of Scarlet Fever.

Lindsay (*British Medical Journal*) has very well summarized the main points to be borne in mind. These are:

1. Initial vomiting, very constant in children under ten, less so above that age, and rare in measles, German measles, and diphtheria.
2. Undue frequency of pulse—say 140 to 150—out of proportion to the other symptoms.
3. The rash, beginning on the upper part of the chest, over the clavicles, and about the flexures of the neck, often well marked on the back of the waist.

To discriminate between scarlatina and German measles Lindsay is in the habit of relying upon the following points: In scarlatina there is initial vomiting; a brief but well marked prodromal stage, with vomiting, chills, headache, and sore throat, sometimes going on to ulceration; no early enlargement of post cervical glands. In German measles there is no vomiting, no prodromal stage, the rash being often the first symptom and always appearing on the face; little or no constitutional symptoms; no ulceration of the throat; a very characteristic early enlargement of the post-cervical glands.—*Med. and Surg. Reporter*, March 31.

Local Anæsthetics—Eucain, Cocain, Orthoform, etc.

It seems to be too much overlooked that many operations for which chloroform or ether are used may more safely be done under some of the local anæsthetics. While we agree with H. H. Oldright, M. B., Assistant Surgeon St. Michael's Hospital, Toronto, Can., (*Canadian Pract.*, April, 1898,) that the danger of deaths from administering chloroform has been over-rated, why use it when eucain, cocain, etc., have been demonstrated to be safer and as efficient in producing local anæsthesia—surgical anæsthesia—we mean?

Charteris and McLennas have proven eucain to be as effectual as cocain and less toxic. Dr. Geo. W. Spencer (*Univ. Med. Mag.*, Nov., 1896,) has used it extensively in 2 per cent. solution—using as much as 15 grains in one case, and in another case as much as 5j of 2 per cent. solution. Anæsthesia is obtained in five to ten minutes, and lasts from twenty to sixty minutes.

The great disadvantage of cocain is that when used in very vascular and absorbent parts, it sometimes has an alarming depressant effect on the heart and circulation unless the parts are constricted to avoid a too rapid absorption of the drug into the general circulation. If using cocain (according to Dr. Wm. Carter), we must allow the drug to circulate in the tissues before applying the Esmarch.

With ethyl chlorid, we can remove (without this danger) growths an inch long or across on the face, etc. The drawback to its use is the hardening of the tissues to be cut, and perhaps a coincident loss of vitality of the tissues at the edges of the wound.

Dr. A. E. Bridger (*Proc. Soc. Anæsthet.*, Jan. 21, 1897,) cites a case of acute mania following the administration of nitrous oxide gas.

We refer to orthoform because it is most recently introduced. It is a white, light, inodorous and tasteless powder, only partially soluble in water; but, combined with HCl, it is very soluble, but then it irritates some mucous membrane, as conjunctiva. Orthoform acts as an anæsthetic only when it comes in contact with nerves; it has no effect when applied to unbroken skin. Applied to a burn, anæsthetic effect is remarkable; it allays pains of ulcers—whether cancerous or not.

The Home of Yellow Fever.

While all the world is discussing the possibility of war between America and Spain, it is significant to recall that the Spanish pos-

sion—Cuba—about which the disagreement has been caused, is the worst place on earth for yellow fever. That mismanagement and misgovernment have been mainly instrumental in causing this result, is now generally admitted. The disease is simply prevalent in consequence of the neglect and slovenliness of the Spanish authorities. No efforts are made to deal with the evil, whereas much could easily be done to suppress it. As a matter of fact, owing to the large passenger traffic which takes place between the United States and Havana, the Americans freely convey the disease into their own country, so much so that yellow fever scares and yellow fever epidemics cost the American Republic many thousands of pounds every year. Under all these circumstances, then, it is obvious that were Cuba to pass into the hands of the United States, the first reform which the enlightened government thereof would probably undertake would be that of suppressing the yellow fever. In the cause of humanity we can only hope that the struggle between the two nations will so terminate as to make it possible for this result to be attained.—*Med. Press and Circular*, London, April 13.

For Venomous Bites and Stings.

Dr. Frank P. Blake, Canon City, Col., writes (*Med. World*, April, 1898,) that five grains of acetanilid to an ounce of sweet spirits of nitre is an excellent application.

Lambert's Lithiated Hydrangea

Is often of the greatest help to mechanical or other plans of treatment, and generally beneficial when used alone in acute cystitis resulting from gonorrhœa, or chronic cystitis resulting from enlarged prostate, retained or altered urine, or from gout or nervous derangement. Its excellent results in chronic rheumatism, gout, lithiasis urica, nephritic calculus, and functional derangements of the renal system are well known.

Sanmetto,

According to Dr. J. F. Snyder, Alma, Mich., "acts like a charm" in prostatic troubles of old men, with difficult micturition; nor has he ever met with a remedy that acts as well in cases of irritable bladder with incontinence of urine.

Book Notices.

Laboratory Text-Book of Pathology. By HORACE S. WHITACRE, B. S., M. D., Demonstrator of Pathology in Medical College of Ohio, etc. *With 121 Illustrations.* Philadelphia: P. Blakiston, Son & Co. 1897. Cloth. Large 8vo. Pp. 172. Price, \$1.50. (From Publishers.)

This book meets the object given in the title—that it is a text-book, intended for pathological laboratory use by students and practitioners of medicine. No effort is spared to describe accurately so that he who runs may read; and where words are not sufficient, well drawn illustrations are introduced in the text to give assistance as if by the graphic method. It is wonderful how much has been compiled into the covers of this book. Originality is not undertaken; and yet one cannot examine this volume without becoming impressed that the author is a diligent student, an accurate observer, and that he knows what to bring out for the study of the college matriculate, as also for the benefit of the practitioner. It is a first-rate book—fully covering the purposes of its preparation. It would be well if the purchaser would make some mark on pages 37, 48 and 61, to call attention to the *Appendix* on page 164, which contains additional remarks of value.

Illustrated Skin Diseases—An Atlas and Text-Book. By WILLIAM S. GOTTHEIL, M. D., Professor of Skin and Venereal Diseases at New York School of Clinical Medicine; Dermatologist to Lebanon Hospital, the Northwestern and Northside German Dispensaries, etc. New York: E. B. Treat & Co., Publishers.

This Atlas and Text Book, with "special reference to modern diagnosis and the most approved methods of treatment," will be completed in *thirteen quarto portfolios* at \$1.00 each; or if the doctor prefers to wait until the completion of the series, he may have them all bound in half-morocco for \$15.00. The first nine portfolios are now announced as ready. Each part contains from 24 to 36 pages of text beside the full pages of colored illustrations—each made in the perfection of art, and true to nature. In addition, numerous wood cuts are given in the body of the text. Portfolio I is devoted to the Anatomy and Physiology of the Skin; Portfolio II, to Therapeutics of the Skin and Classification of Functional Disorders—consideration of which disorders also occupies Portfolio III. The disorders so considered and

illustrated are: Pruritus, hyperidrosis, chromidrosis, bromidrosis, seborrhoea, comedo, milium, sebaceous cyst, asteatosis, erythema simplex, livedo, urticaria, prurigo and purpura. Basing an opinion of the value of this *Atlas* upon the three Portfolios received, it is not going too far to say that, except the actual clinic of the diseases illustrated, we cannot suppose it possible to present drawings more true to nature. Indeed, we are informed that "the color plates are made from color negatives directly taken from living subjects." As a text-book, too, the work is valuable as presenting the great advances made in dermato-therapeutics. As it appears to us, we quote the words of Prof. Ohmann-Dumesnil as expressive of our opinion of the general character and merits of this work on *Illustrated Skin Diseases*: The author has written it "for the general practitioner, and he has fully grasped the idea of the necessity of properly illustrating a work of this character."

International Medical Annual and Practitioner's Index. By THIRTY-FIVE CONTRIBUTORS—AMERICAN AND FOREIGN. 1898. *Sixteenth Year.* New York: E. B. Treat & Co. 8vo. Pp. 740. Morocco-cloth. Price, \$3.

Successive issues of this *Annual* are improvements upon the former. It is a most valuable "work of reference for medical practitioners." The first 68 pages give a "dictionary of new remedies, and a review of therapeutic processes for 1897." Then comes a review of "electro-therapeutics," followed by a chapter on "hypnotism and suggestion." Part II is on *New Treatment*, and covers nearly 500 pages—giving a "dictionary of new treatment in medicine and surgery of the year," up to 1898. This is the part of current importance to the practitioner who seeks the latest of the best clinical and therapeutic suggestions regarding diseases about which notable advances have been made. More than could have been expected in a work like this, we find an "Atlas of the bacteria pathogenic in the human subject." Plates xxiii to xxx present graphically, from original preparations, all the chief pathogenic bacteria of man; and contain information that we do not know where else to find in one volume. It is proposed that what of importance regarding these bacteria is not contained in this *Annual* shall be included in the volume to be published early in 1899; so that the two parts in different volumes will bring the subject well up. Part III refers to "Miscellaneous" matters, such as "legal decisions affecting medical men and the public health;" the progress of sanitary science during 1897; "concealed alcohol in drugs;"

"new inventions—instruments and appliances," etc. The book concludes with a most excellent "general index." Wherever it has appeared essential, cuts and plates have been introduced in the text. The slight advance in the price of the book to \$3.00 will be recognized as immaterial as soon as the many important improvements in the book are seen.

Editorial.

Medical Aspects of the War with Spain.

By common consent, the great battles of the war with Spain, that seems now impossible to honorably prevent, will be naval. The result of such battles must be conjectural, when powers of about equal cruisers and battleships meet in conflict. Being practically masses of iron, the victory of the battle will belong to the naval command that may succeed in knocking water-line holes through the boats of the other side. When such holes are made—whether by Harveyized ball or torpedo—that vessel must sink to the bottom quickly with scarcely a hope of the saving any on board. All nations will watch with breathless anxiety the result of each engagement, to learn the weak points in present naval construction, or to become confirmed in opinions as to the strength of certain kinds of warships.

The chief duty of the surgeon on such warships will scarcely relate to wounds of battle. Such are the missiles of war on vessels that, for the most part, the man hit is killed. But in a prolonged engagement many a sailor will become overcome by the hard work in closed up quarters, or stunned by concussion. So that the surgeon is apt to have plenty to attend to outside of dressing wounds—even though his vessel may not suffer materially from shot or torpedo. In fact, constructed as vessels now are, there is apt to be need for more assistant surgeons than are allowed to each warship. In active service, every battleship should be allowed at least three assistant surgeons—to serve in different parts of the vessel. Provision should thus be made, also, for proper surgical or medical attendance in the event of injury or sickness of the surgeon himself. Prompt attention at the moment of need—rather than after the hospital corps has borne the man to the hospital—would save the life of many a man.

But there is another feature of the war. There does not seem to be any doubt that forces will be speedily landed on Cuban soil. The result of land engagements scarcely admits of a doubt—if, indeed, material resistance be offered by the Spanish Army to the United States Army. But after the occupation of Cuba by American troops—especially about the seaports—a far more deadly and a much more to be dreaded enemy than Spanish bullets is to be met. Yellow fever, concerning which so few, relatively, of the United States Army possess immunity, is to be contended with from about the first of May till October, or perhaps later. Of course alliance will be made between the Army of the Cuban Revolution and that of this country. It is to be hoped that there are enough immunized against yellow fever in this Cuban Army to occupy the seaports and places of chief prevalence of this tropical disease after the Spanish have been made to surrender or to leave them. Such would leave the non-immunized American Army to occupy those points on the Island where they could be serviceable in event of need, and yet saved from the ravages of this dread disease.

Should an American Army of occupation be in Cuba during the summer, it would be imprudent to allow them furloughs to return to their homes at that season. Quoting from the *Age-Herald*: "Sufficient attention has not been given to that form of Spanish misrule that goes by the name, *yellow fever*. It is a product of misrule; and during the coming summer, unless decisive action is soon had, the danger will be unusually threatening. The great number of half starved non-combatants, surrounded by conditions that invite the dread fever, will imperil every life in the South. This will be the form that Spanish inhumanity will take in this country. War would perhaps increase the danger; but the overthrow and expulsion of the Spaniard would speedily put an end to all risks on that account. It would bring security to a dozen States that are now insecure, and this of itself would be a great gain in this section of the country." "The dread of epidemics from the huts of reconcentrados, or from the foulest of foul harbors, would be ended and the entire Southern country would draw a long breath of relief."

It requires no suggestion from us, we are sure, to cause every surgeon of either the United States Army or Navy who expects to participate in the war to thoroughly study up yellow fever and other diseases peculiar to the torrid zone.

Medical College of Virginia Commencement Exercises

Transpired April 21 at the Academy of Music, Richmond. Hon. A. J. Montague, Attorney-General of the State, delivered the address to the graduates. It was a most appropriate address, which ought to be long remembered. The Dean, Dr. Christopher Tompkins, awarded diplomas to the following 39 *Doctors of Medicine*:

T. D. Armistead, Roanoke, Va.
J. F. Bright, Richmond, Va.
F. E. Booker, Cambridge, Md.
A. M. Byrd, Williamsville, Va.
H. R. Coleman, Welch's, Va.
G. A. Caton, Greensboro, N. C.
R. L. Corbell, Chuckatuck, Va.
R. E. Caldwell, Pulaski, Va.
J. F. Chenoweth, Pepper, Va.
F. D. Drewry, Mason's Depot, Va.
C. W. Doughty, Whaleyville, Va.
W. L. Early, Wolfstown, Va.
H. R. Fairfax, Lynchburg, Va.
M. C. Fields, Baywood, Va.
William Gwathmey, Beulahville, Va.
Marcus Gayle, Hicks' Wharf, Va.
Van Felbury Hoffmann, Breda, Holland.
B. A. Hord, Richmond, Va.
William Hosking, Carlton's Store, Va.
J. B. Halligan, Petersburg, Va.
B. O. Hudgins, Overfield, W. Va.
W. P. Jones, Urbanna, Va.
L. H. Jordan, Mt. Jackson, Va.
N. A. Lancaster, Richmond, Va.
E. R. Miles, Spring Creek, Va.
J. S. Maloy, McDowell, Va.
R. B. Miller, Goldsboro, N. C.
J. J. Miller, Haywood, Va.
B. A. Pope, Newsoms, Va.
R. J. Price, Wilmington, N. C.
B. N. Randolph, Jr., Brook Hill, Va.
J. W. Smith, Cumberland C. H., Va.
C. J. Sager, Woodstock, Va.
H. L. Segar, Jamaica, Va.
B. F. Taliaferro, Richmond, Va.
E. C. S. Taliaferro, Ware Neck, Va.
W. A. Wilkinson, Sand Creek, Mich.
J. R. Williams, Richmond, Va.
G. J. Williams, Pounding Mills.

In the *Dental Department*, one graduate, Sydney B. Perry, Lewisburg, W. Va.

In *Pharmacy*, Mr. John O'Brien, Manchester, Va., is a graduate in pharmacy.

Dr. William Gwathmey received appointment as one of the house surgeons in the Richmond City Almshouse.

During Thursday, the Alumni Association

of the College (Dr. Wm. F. Drewry, Petersburg, Va., President,) held its annual meeting. Dr. D. A. Coleman read a paper. The alumni lunch at *The Jefferson* followed.

New Medical Examining Board of Virginia.

During the session of the Medical Society of Virginia last September, the following physicians were recommended for commission by the Governor of Virginia to represent the regular profession on the Medical Examining Board of Virginia for the four years succeeding April 1, 1898:

From the State at Large—Drs. R. W. Martin, of Lynchburg, and W. L. Robinson, of Danville.

First District—Dr. L. S. Foster, Mathews.

Second District—Dr. Herbert M. Nash, Norfolk.

Third District—Dr. J. E. Warinner, Brook Hill, Henrico county.

Fourth District—Dr. S. W. Budd, Petersburg.

Fifth District—Dr. R. S. Martin, Stuart, Patrick county.

Sixth District—Dr. Samuel Lile, Lynchburg.

Seventh District—Dr. R. C. Randolph, Boyce, Clarke county.

Eighth District—Dr. R. M. Slaughter, Theological Seminary, Fairfax county.

Ninth District—Dr. E. T. Brady, Abingdon.

Tenth District—Dr. Charles W. Rodgers, Staunton.

The Hahnemann Medical Society of the Old Dominion nominated the following homœopaths: Drs. E. C. Williams, Richmond, and M. R. Allen, Norfolk.

Gov. J. Hoge Tyler has issued commissions in due form to each of the above physicians and homœopaths.

The fourteen above named are expected to meet in the Hall of the House of Delegates, in Richmond, Va., at 8 P. M., Tuesday, June 21, 1898, for organization, the election of officers, the appointment of examiners for the eight different sections in which applicants are to be examined, the preparation of questions for the examinations to begin the next morning—Wednesday, June 22, at 9 A. M., in the same Hall.

Small-Pox at Pocahontas, Va.

The town authorities of Tazewell, Va., have again been called upon to quarantine against Pocahontas and the coal fields and other points in that section on account of the spread of small-pox. Why will not every one submit to vaccination?

The Virginia Pharmacal Company to Furnish Hospital Supplies for U. S. Army.

We congratulate the Virginia Pharmacal Company, Richmond, on receiving the Government contract for furnishing medicines, hospital supplies, etc., for the regular U. S. army for the year beginning April 1, 1898. This is the first time that the contract has come South; and inasmuch as the Richmond firm was brought into competition with firms in all parts of the United States, its enterprise is in the highest degree commendable, and its success so much the more gratifying. If war should occur the usual annual contract would be very much enlarged, as practically then all the medical supplies would be purchased through this channel.

The award to this Company is the more gratifying in that, it appears, some over-industrious "drummers" attempted a report last Fall or Winter to the effect that their houses made better preparations. Such reports led the Richmond Academy of Medicine—representing nearly every regular practitioner of the city who are daily using the preparations—to unanimously endorse the Virginia Pharmacal Company, and to recommend the use of its products to pharmacists in dispensing so far as they could do so without substituting for other preparations prescribed.

Graduate Nurses' Association, Richmond, Va.

We are glad to learn that the graduate nurses residing in Richmond, and representing both Southern and Northern hospitals, have formed an Association. Membership is limited to graduate nurses in good standing from recognized training schools. Mrs. Fannie B. Humphreys is President; Miss E. O. Price, Vice-President; Miss Mary White, Acting Secretary and Treasurer—Miss Gaul being compelled to decline. In connection with this Association, there has been established a "Directory for Nurses," which will be kept at the Sheltering Arms Hospital, 1008 E. Clay Street, Richmond, Va., where physicians can obtain graduate nurses.

Virginia Home for Incurables.

The corner-stone of this building, designed for the purposes indicated by the title, was laid at the corner of Broad and Lombardy Streets, Richmond, April 16, 1898. Various entertainments are being given for this noble charity, and contributions, however small, are solicited—from a penny up—to help carry out all of the details of the plan determined on.

Association of Surgeons of Southern Railway Co.

The third annual meeting will convene at the Hygeia, Old Point Comfort, Va., June 21 and 22, 1898. All surgeons of the Company and controlled lines are eligible for membership. A cordial, fraternal invitation is extended to the Surgeons of the Norfolk and Western, Chesapeake and Ohio, New York, Philadelphia and Norfolk, Atlantic and Danville, and Norfolk and Southern Railroads, and of the Atlantic Coast Line, and the Seaboard Air Line, and to members of the medical profession contiguous to Old Point, to attend and participate in the deliberations of the session. Titles of papers (limited to twenty minutes) should reach the Secretary by June 5th, to appear in program. Hygeia Hotel special rate \$2.50 a day. Transportation for surgeons of Southern Railway and controlled lines, and dependent members of their families can be secured by application to the President of the Association, Dr. C. M. Drake, Atlanta, Ga. Dr. T. H. Handcock, 6½ Whitehall St., Atlanta, Ga., is Secretary and Treasurer. Drs. R. L. Payne, Norfolk, Va., C. W. P. Brock and J. A. White, Richmond, Va., R. J. Noble, Selma, N. C., and J. M. Manning, Durham, N. C., Committee of Arrangements.

It is proposed, at the same time and place, to hold a conference of chief surgeons or other medical representatives of the principal railroads operating in Virginia, West Virginia, North and South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, Arkansas, Tennessee and Kentucky, for the purpose of determining the advisability of forming a Southern Association of Railway Surgeons. There seem to be many good reasons for such an organization.

Changes in Chairs, Medical College of Virginia.

Among the official doings of the Board of Visitors April 21, were the following:

The Chair of *Materia Medica*, Therapeutics, and Organic Chemistry, was changed to "*Materia Medica* and Therapeutics." Organic Chemistry was attached to the Chair of Chemistry and assigned to a lecturer.

The Chair of General Chemistry, Toxicology and Medical Jurisprudence was changed to "Chemistry, Toxicology and Medical Jurisprudence."

Dr. Henry C. Jones was made Professor of Operative and Clinical Dentistry. Dr. Edwin P. Wright was made Professor of Prosthetic Dentistry.

Dr. F. H. Beadles was elected Professor of Botany and Pharmacognosy.

Dr. John P. Davidson, an interne of the New York Eye and Ear Infirmary, was elected Professor of Diseases of the Eye, Ear, and Throat.

At the meeting of the Alumni, Dr. C. A. Early, Bluefield, read a paper on Typhoid Fever. Discussed among others, by Dr. Simon Baruch, of New York, who was also elected Orator for 1899. Dr. D. J. Coleman, Richmond, was elected President for the ensuing term.

Southwest [Virginia] Hospital Addition

The Board of Visitors of this admirably conducted hospital for mental diseases, located at Marion, Va., under the medical superintendency of Dr. Robert J. Preston, have ordered the erection of a wing as an addition to the main building at a cost of \$12,000. It will be 150 x 50 feet in length and width, and four stories high. There are about 350 patients now in the institution; but the lack of capacity for more patients during the past two years or more compels the proposed enlargement.

American Medical Association.

The Preliminary Announcement of the Committee of Arrangements of the Denver Meeting June 7-10, 1898, states that preparations for the coming meeting are well advanced. A large number of prominent men have signified their intention to be present and read papers, and an excellent scientific program is assured. The indications all point to a large and successful meeting.

Convenient and ample accommodations have been secured for the General Sessions, Section work, Registration and Exhibits. The entertainment of members and their families is being planned on an elaborate scale, and the Committee promises all who may come a most enjoyable time.

Denver is an interesting city, and the State offers many and varied attractions to visitors. Local excursions are being arranged to take place after the meeting, that all may have ample opportunity of visiting various points of interest in the State and seeing the best scenery of the Rocky Mountains.

The Committee confidently expects to obtain a one-half rate and 30 day limit for the round trip on roads west of Chicago and St. Louis, and reduced rates on Eastern roads. The rates will be announced in the *Journal of the Association* as soon as definitely determined.

The following is a list of the *principal hotels*

of Denver, with rates agreed upon for the meeting:

Brown's Palace Hotel. 17th Street and Broadway. Take 17th Street (red) car to Hotel. European plan, \$1.50 per day and upward. American plan, \$3 to \$5 per day and upward. These regular rates will apply during the meeting for available rooms if no reservation has been made. For reservations and rooms to be occupied by one person only, application must be made to Hotel for rates.

Windsor Hotel. 18th and Larimer Streets. Take 17th Street car to Larimer Street. American plan, \$2 per day; room with bath, \$2.50 per day.

Albany. 17th and Stout Streets. Take 17th Street (red) car to Hotel. American plan, \$2 to \$3.50 per day.

Markham Hotel. 17th and Lawrence Streets. Take 17th Street car to Hotel. European plan, \$1 per day and upward.

All reservations at the Albany and Markham must be for the full term of the Meeting, and be paid for whether occupied or not unless cancelled ten days in advance. They reserve right to place persons occupying a room alone in a single room.

New St. James Hotel. Curtis near 16th Street. Take 17th Street (blue) car to Hotel. American plan, \$2 to \$3.50 per day.

L'Imperiale. 14th Street and Court Place. Take Colfax Avenue car to Court Place. American plan, \$2 to \$3 per day.

Metropole Hotel. Broadway near 17th Street. Take 17th Street (red) car to Broadway. European plan, \$1 to \$2 per day. \$1 rooms. \$1.50 if occupied by two persons. No reservations made.

Oxford Hotel. 17th and Wazee Streets. Two blocks above depot. European plan, \$1 to \$3 per day. An extra charge for two persons in one room.

American House. 16th and Blake Streets. Take 16th Street car to Blake Street. American plan, \$2 per day.

The above hotels make no extra charge for reservations or for persons occupying a room alone except as stated.

Hotel Broadway. Cheyenne Street and Broadway. Take Colfax Avenue car to Cheyenne Street. American plan, \$1.25 to \$1.50 per day.

Vallejo. 1420 Logan Avenue. Take Colfax Avenue car to Logan Avenue. American plan, \$2 per day and upward.

Devonshire. 14th and Logan Avenue. Take Colfax Avenue car to Logan Avenue. American plan, \$1.50 per day and upward.

Albert. 17th and Welton Streets. Take 17th Street (red) car to Hotel. European plan, \$1 to \$1.50 per day.

Aldine. 1013 Seventeenth Avenue. Take 17th Street (red) car to Hotel. American plan, \$1.25 per day.
Richelieu. 1727 Tremont Street. Take 17th Street (red) car to Tremont Street. European plan, \$0.50 to \$1 per day.
Earl. 1430 Tremont Street. Take Colfax Avenue car to Tremont Street. American plan, \$1.50 to \$2 per day.
Glenarm Hotel. Glenarm and 15th Streets. Take Colfax Avenue car to Hotel. European plan, \$1 per day and upward.
Bonaventure. 18th and Glenarm Streets. Take 17th Street (red) car to Glenarm Street. European plan, \$0.50 to \$1.50 per day.
Drexel. 17th and Glenarm Streets. Take 17th Street (red) car to Hotel. European plan, \$0.75 to \$1.50 per day.

These hotels make small extra charges for two persons occupying same room. No charge for reservation.

Applications for rooms should be made to the hotels direct. For special information, apply to Robert Levy, M. D., *Chairman Sub Committee on Hotels*, California Building, Denver, Colo.

J. W. GRAHAM, M. D., *Chairman Committee of Arrangements*; W. A. JAYNE, M. D., *Secretary*.

Florida Medical Association.

The 25th annual meeting, to be held at Jacksonville, April 26 and 27, promises to be an important one. Reduced railroad and hotel rates have been secured. The officers are Drs. R. B. Burroughs, Jacksonville, *President*; R. L. Harris, Orlando, and N. A. Williams, Dade City, *Vice-Presidents*; J. D. Fernandez, Jacksonville, *Secretary and Treasurer*; Joseph Y. Porter, Key West, *Librarian*; Solace Mitchell, Jacksonville, *Chairman of Committee of Arrangements*. After the *President's Address*, officers and committees will report. At 8 P. M., Dr. B. G. Abernethy, Tampa, will deliver an address on *The Advance of Medical Science*. Among papers to be presented are:—*Rational and Philosophical Method of Relieving Asphyxia in the Newly Born Fetus*, by Dr. Sheldon Stringer, of Brookville; *Pemphigus, with Report of Three Cases*; also *Report of a Case of Innominate Aneurism, and Medical Treatment Employed*, by R. P. Izlar, Wayercross, Ga.; *Gunshot Wounds*, by Dr. G. H. Altree, Altree, Port Tampa City; *Dry Antiseptic Treatment of Wounds, as Opposed to Moist Dressings*, by Dr. John C. Peyton, St. Francis; *Case of Gunshot Wound of the Brain, with Hemiplegia*, by Dr. Theo. Turnbull, Monticello; *Infant Feeding*, by Dr. Luther S. Harvey, Crescent City; *State Medicine*, by Dr. Joseph Y. Porter, Key West;

Report upon Quarantine Conference, held at Mobile, by Dr. R. P. Daniel, Jacksonville; *Water*, by E. L. Stewart, Starke; *The Drug Habit*, by Dr. C. R. Oglesby, Barton; *Qualification for a Health Officer*, by Dr. T. S. Anderson, Carabelle; *Hygiene*, by Dr. N. A. Williams, Dade City. Drs. Airth, Palmer, Dunham, and Abernethy have promised papers, but their subjects are not announced. Dr. W. H. Cyrus, Palatka, chairman of the section of *Gynecology*, and Dr. F. P. Petty, Sanford, chairman of committee on *Diseases of Children*, will also probably present reports in their departments.

Western Ophthalmic and Oto-Laryngeal Association.

The third annual meeting of the Western Ophthalmologic and Oto-Laryngologic Association was held in Chicago, April 7th and 8th, 1898. The address of welcome was made by Dr. F. Henrotin, President of the Chicago Medical Society, who, in a felicitous speech, extended to the members the hospitalities of the city of Chicago. Dr. Alt, of St. Louis, Mo., responded for the Association. The annual address was then read by the President, Dr. B. E. Fryer, of Kansas City, Mo. After the usual routine business had been concluded, a scientific communication was then read by Dr. Herman Knapp, of New York city.

The Ophthalmologic and Oto-Laryngologic Sections each held five separate and two joint sessions, many articles of interest being read and discussed. The last joint session was occupied with the exhibition of clinical cases.

The Committee of Arrangements, of which Dr. J. E. Colburn, of Chicago, was chairman, was unremitting in its attention to the guests, and nothing was spared that would contribute to the entertainment of the visitors. Thursday evening the members were invited to the hall of the Chicago Athletic Club, where a special program had been arranged for the entertainment of the members.

The following officers were elected for the ensuing year: *President*, Dr. J. Elliott Colburn, of Chicago. *Vice-Presidents*, Drs. W. Scheppegegrell, of New Orleans; Casey A. Wood, Chicago; H. Gifford, of Omaha, Neb. *Treasurer*, Dr. W. L. Dayton, of Lincoln, Neb. *Secretary*, Dr. F. H. Rumbold, of St. Louis, Mo.

New Orleans was unanimously selected as the city for the next meeting, which will take place just before the Mardi Gras of 1899, thus allowing the members to conclude their scientific session with the gaieties of the Carnival season.

International League of Surgeons of Merchant Marine.

The surgeons of this service recently organized a league which is destined to greatly increase the efficiency of this important service. Any past or present surgeon, in good professional standing, is eligible to membership. Dr. W. Thornton Parker, Groveland, Mass., is secretary. The chief objects of the league are (1) To increase the efficacy of the medical service on ocean liners; (2) to encourage surgeons to respect their positions, and to prevent unworthy applicants from receiving employment; (3) to provide information on professional subjects, relating to sea-service, with a view to lessen the difficulties of recently appointed medical officers; (4) to collect for publication a history of the members; (5) to publish a volume of records which shall be of value to those interested; and (6) to furnish a list of medical officers of the merchant marine, serving at sea, throughout the world.

The Plague

Is prevailing worse than ever in India. Bombay has a recorded population of 821,764. During January, the deaths, from all causes, amounted to 5,537, of which plague was the cause of about two-thirds. According to the *Missionary Herald*, the latest figure for deaths in Bombay in one week is 1,257. The epidemic has extended into the interior—the worst reports of its ravages now coming from missionary stations—Sirur, Arnednager and Sholapur. In December last, in Sholapur (about 65,000 inhabitants), though probably 50,000 have fled from the city, leaving only 15,000, there were about 50 new cases daily, of which about three-fourths proved fatal. By some physical law, the nature of which is not apparent, Europeans seem to be singularly almost exempt from the disease.

Collective Investigation on the Action of Cold in Pneumonia.

The three collective reports already published by Dr. Thomas J. Mays, 1829 Spruce St., Philadelphia, on local cold applications in the treatment of acute pneumonia, give a record of 299 cases so treated, with ten deaths, or a mortality rate of 3.35 per cent.

Being desirous of pursuing this investigation still further, he asks those who have tested this measure to kindly give him the result of their experience. Full credit will be given to each correspondent in the report which he hopes to publish soon. Blanks for the report of cases will be cheerfully furnished by Dr. Mays with postage for return of same, on application.

Medical College Notes.

UNIVERSITY COLLEGE OF MEDICINE, RICHMOND, VA.

Lectures for the season are practically ended; examinations are going on. Dr. John Herbert Claiborne, Petersburg, Va., has accepted the invitation of the Faculty to deliver the *Address to the Graduating Classes* on the Commencement occasion about a month hence. The Banquet to the Graduating Classes will be at "The Jefferson." During the year about ended, there have been over 280 matriculates in its three schools.

RUSH MEDICAL COLLEGE.

It is announced that the complete affiliation of this institution with the University of Chicago is now practically assured. Drs. Ephraim Ingals, Nicholas Senn, and E. Fletcher Ingals, were the principal donors of \$71,000 to pay off the liabilities of the College before it could be annexed to the University. Hereafter, the Board of Trustees will be chosen from representative business men instead of from the Faculty.

MEDICAL SCHOOL OF THE UNIVERSITY OF THE CITY OF NEW YORK.

The status of the Faculty of this time-honored school appears to be muddled. The *Medical News*, April 16th, gives the first clear, connected account we have seen of the proposed consolidation last summer of Bellevue and of the University Medical School; and explains, also, the surprise later on why the consolidation was interrupted, and each of the two resumed its independent field as formerly. In further effort at organic union with the University of the City of New York, the Council sent to each professor of the Medical School a letter conditioning his re-appointment upon a promise "that he accept the statute and rule of the University regarding the medical college, and that he use his influence to consummate the transfer of the Loomis Laboratory and its endowment to the University Council." Answer was requested not later than March 31st. "To this letter, no reply was made by any of the six professors;" and the inference is that the appointments will expire with the college year—May 18, 1898.

MEDICAL COLLEGE OF VIRGINIA.

In another column we publish a full list of the graduates of this institution on 21st inst. During the year closed there were about 160 matriculates in all departments.

Medical Society Meetings—State and National— During May, 1898.

American Dermatological Association, New York, N. Y., May 31–June 2. Dr. J. Nevins Hyde, Chicago, Ill., *President*; Dr. J. T. Bowen, 14 Marlborough street, Boston, Mass., *Secretary*.

American Gynecological Society, Boston, Mass., May 24. Dr. Paul F. Munde, New York, N. Y., *President*; Dr. J. Riddle Goff, 22 E. Thirty-fifth street, New York, N. Y., *Sec'y*.

American Laryngological Association, Brooklyn, N. Y., May 16–18. Dr. Thomas R. French, Brooklyn, N. Y., *President*; Dr. H. L. Swain, New Haven, Conn., *Secretary*.

American Laryngological, Rhinological and Otolological Society, Pittsburg, Pa., May 11–12. Dr. Wm. H. Daly, Pittsburg, Pa., *President*; Dr. Robert C. Myles, 46 W. 38th street, New York, N. Y., *Secretary*.

American Neurological Association, Washington, D. C., May 4–6. Dr. M. Allen Starr, New York, N. Y., *President*; Dr. Graeme M. Hammond, 58 W. 45th street, New York, N. Y., *Secretary*.

American Orthopedic Association, Boston, Mass., May 17–19. Dr. Robert W. Lovett, Boston, Mass., *President*; Dr. John Ridlon, 103 State street, Chicago, Ill., *Secretary*.

American Pediatric Society, Cincinnati, Ohio. Fourth week in May. Dr. L. Emmett Holt, New York, N. Y., *President*; Dr. Samuel S. Adams, 1 Dupont Circle, Washington, D. C., *Secretary*.

Arkansas Medical Society, Eureka Springs, May 11–13. Dr. J. G. Eberle, Fort Smith, *President*; Dr. Frank Visonbaler, Little Rock, *Secretary*.

Association of American Physicians, Washington, D. C., May 3–5. Dr. F. C. Shattuck, 135 Marlborough street, Boston, Mass., *President*; Dr. Henry Hun, Albany, N. Y., *Sec'y*.

Connecticut Medical Society, New Haven, May 25–26. Dr. R. S. Goodwin, Thomaston, *President*; Dr. N. E. Worden, Bridgeport, *Secretary*.

Illinois State Medical Society, Galesburg, May 17–19. Dr. J. M. G. Carter, Waukegan, *President*; Dr. Edmond W. Weis, Ottawa, *Secretary*.

Indiana State Medical Society, Lafayette, May 5–6. Dr. W. N. Wishard, Indianapolis, *President*; Dr. F. C. Heath, Indianapolis, *Secretary*.

International Association of Railway Surgeons, Toronto, Canada, May —. Dr. George Ross, Richmond, Va., *President*; Dr. Louis J. Mitchell, 71 Laflin street, Chicago, Ill., *Secretary*.

Iowa State Medical Society, Des Moines, May 18–20. Dr. Edward Hornibrook, Cherokee, *President*; Dr. J. W. Cokenower, Des Moines, *Secretary*.

Kentucky State Medical Society, Maysville, May 18. Dr. Joseph M. Mathews, Louisville, *President*; Dr. Steele Bailey, Stanford, *Secretary*.

Michigan State Medical Society, Detroit, May —. Dr. Joseph B. Griswold, Grand Rapids, *President*; C. H. Johnston, Grand Rapids, *Secretary*.

Missouri Medical Association of, Excelsior Springs, May 17–19. Dr. Joseph Geiger, St. Joseph, *President*; Dr. Jabez N. Jackson, Kansas City, *Secretary*.

Montana Medical Association of, Missoula, May 25. Dr. G. T. McCullough, Missoula, *President*; Dr. B. C. Brooke, Helena, *Secretary*.

New Hampshire Medical Society, Concord, May 30–31. Dr. M. C. Lathrop, Dover, *President*; Dr. G. P. Conn, Concord, *Secretary*.

New Mexico Medical Society, Las Vegas, May —. Dr. J. F. Pearce, Albuquerque, *President*; Dr. G. A. Wall, Albuquerque, *Secretary*.

North Carolina Medical Society of State of, Charlotte, May —. Dr. Francis Duffy, Newburn, *President*; Dr. R. D. Jewett, Wilmington, *Secretary*.

North Dakota Medical Society, Jamestown, May 25–26. Dr. A. Eggers, Grand Forks, *President*; Dr. R. D. Campbell, Grand Forks, *Secretary*.

Ohio State Medical Society, Columbus, May 4–6. Dr. Wm. H. Humiston, Cleveland, *President*; Dr. John A. Thompson, 628 Elm street, Cincinnati, *Secretary*.

Pennsylvania Medical Society of State of, Lancaster, May 17–19. Dr. W. Murray Weidman, Reading, *President*; Dr. C. L. Stevens, Athens, *Secretary*.

Washington State Medical Society, Seattle, May —. Dr. J. B. Eagleson, Seattle, *President*; Dr. F. H. Cox, Seattle, *Secretary*.

West Virginia Medical Society of, Martinsburg, May —. Dr. C. F. Ulrich, Wheeling, *President*; Dr. G. A. Aschman, Wheeling, *Secretary*.

Wisconsin State Medical Society, Milwaukee, May 4. Dr. William Mackie, Milwaukee, *President*; Dr. Charles S. Sheldon, Madison, *Secretary*.

Quarantine Laws—National Control of Quarantine.

Dr. James H. McCall, Huntingdon, Tenn., read a paper with this title before the Medical Society of the State of Tennessee, at Jackson-Tenn., April 14, 1898, of which paper the fol-

lowing synopsis is made: Yellow fever is caused by a specific virus, the habitat of which is in the tropical region. It thrives wonderfully, and is even more virulent in our Southern States than in the tropics. The only rational means of preventing yellow fever in the United States is to prevent the ingress of the germ to our country. All quarantine regulations so far have failed to accomplish this end. The legislation in this direction has indeed been retrogressive. The laws, with but few amendments, under which our quarantine regulations are enforced, were enacted one hundred years ago. Indeed, a few acts have been passed since that time but were repealed after a few years' trial. A National Board of Health was established in 1879, but the law authorizing it was repealed after four years' trial. The Federal Government does not have sufficient jurisdiction. It is subordinate to State quarantine laws. In time of epidemics the Government assists the States, when, in fact, the State should assist the Government. After the discontinuance of the National Board of Health, its duties were transferred to the Marine Hospital service. The enforcement of the present quarantine laws by the different municipal, county and State authorities cause great and unnecessary financial loss to transportation companies, as well as great loss of time and inconvenience to the traveling public. The entire system of quarantine laws should be under the control of the National Government. The Marine Hospital service should be given immediate authority to thoroughly disinfect every room in which there was a case of yellow fever during the past season; then, if Congress will place the quarantine laws absolutely under Federal control, there would be no recurrence of yellow fever in the United States.

Camp for Mobilization of Volunteers for Cuban War.

The Virginia Agricultural Fair Grounds, West Broad street, Richmond, Va., has been tendered the United States Government for the camp of instruction, etc., for the volunteers of this and adjoining States, with the more than probability that the offer will be accepted. The grounds are ample for at least 10,000, and well watered from the hydrants of the city reservoir. The sanitary officer in charge, however, has a great responsibility in seeing that the grounds are kept clean of filth incident to the congregation of so many.

Dr. Roscoe E. Franklin,

Richmond, Va., has left the city for a season to cast his lot with the gold-hunters of the Klondike region.

Obituary Record.

Mrs. Margaret E. O'Brien Davis,

Wife of Dr. John D. S. Davis, of Birmingham, Ala., died at her home April 1st. Though scarcely past twenty-one years of age, she had attained a prominent place as both a poet and authoress. Possessed of qualities of head and heart that made association with her profitable, the news of her death came upon the people of Birmingham and of the South as a calamity. Her bereaved husband and family have the sincere sympathy of their large circles of friends and acquaintances.

Dr. Edward Constant Sequin,

Born in Paris, France, 1843; died at his home in New York February 19th, 1898. He achieved eminence in his specialty of neurology. The April, 1898, *Journal of Nervous and Mental Diseases* devotes several pages to an obituary notice prepared by a Committee of the New York Neurological Society, and also gives a life-like picture of him. His death was due to cirrhosis of the liver, succeeding what his biographers affirm was non-tubercular phthisis.

Dr. John M. Strong,

Aged 80 years, died at his home near Charlotte, N. C., March 11th. He was engaged in active practice until the evening before his death.

Dr. Charles West,

The illustrious English author of works on diseases of children, died at his home March 19, aged 81 years.

Mrs. R. D. Huffard.

Wife of Dr. R. D. Huffard, of Tazewell, Va., died at her home April 14, 1898. Much sympathy is felt for the bereaved husband and children.

Polk's Medical and Surgical Register of the United States and Canada

Is undergoing its fifth revision. Physicians who have not given in their names, addresses, etc., should at once send them to R. L. Polk & Co., Detroit, Mich.

Medical and Surgical Reporter, Philadelphia,

Has put on a new dress, changed to a Semi-monthly, and began a new career March 16th, 1898. It is, as it was, a very excellent journal.

THE

Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

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Original Communications.

PELVIC PERITONITIS--PELVIC INFLAMMATION.*

By HERBERT M. NASH, M. D., Norfolk, Va.

Ex-President and Honorary Fellow of Medical Society of Virginia; Member Medical Examining Board of Virginia, etc.

Upon the invitation of the chairman of the section, the following brief paper is presented, regretting that the limited time at my disposal permits only of a cursory treatment of a matter of such intense interest both to the physician and surgeon.

The older works on gynecology devoted much space to the differential diagnosis between pelvic peritonitis and cellulitis, and very nice distinctions were sought to be made between them, and to the differences in the treatment. But a more perfect knowledge of the pathology of pelvic inflammation has rendered such distinctions unnecessary.

Under this caption, then, may be included inflammation proper of the peritoneum of this particular locality, as also of one or all of the pelvic contents—the uterus, tubes, ovaries, cellular tissue and lymphatics—the etiology, symptoms, history, and treatment being similar, only varying slightly slightly as to the particular organ or organs affected, positive discrimination being sometimes extremely difficult or impossible. Practically, they may be treated as one affection.

In the chronic form of pelvic inflammation, however, the means of diagnosis may be more readily applied, and the treatment will vary as the circumstances justify—surgical measures being often the only ones reliable.

In acute pelvic peritonitis, medical treatment is principally relied upon—surgical interference being only invoked upon the deposition of pus, or to break up adhesions between the organs, the very frequent result of the exudations of lymph.

And here, as in almost all cases of gynecological surgery, when such intervention becomes necessary, the results depend much less upon the manipulative skill of the operator than upon his judgment as to the time and method of interference.

The causes of pelvic inflammation are septic, specific and traumatic; lymphangitis, cellulitis and also metritis may arise from obstetric and surgical injuries, though the last may be of septic or specific origin, secondarily affecting the tubes, ovaries and peritoneum.

The usual symptoms are pelvic pain, which varies in intensity according to the seat of the inflammation, with a temperature from 101° to 104°, deranged digestive functions, with or without nausea and vomiting; vesical and rectal tenesmus; tenderness upon pressure in the iliac regions, leucorrhœa, and perhaps hemorrhages from the uterus. These symptoms decline and cease if resolution takes place. They are mitigated upon the supervention of exudation, without a total cessation of fever. In case of suppuration, the fever again rises, with a chill or chills, and should it reach 103°, septic infection may be inferred. If the pus is not evacuated, general septicæmia supervenes.

An examination per vaginam in acute pelvic peritonitis gives little information, and the patient much pain, and if made, should be done with gentleness.

If the attack be the result of what is termed "taking cold," or of a sudden suppression of menstruation, without the intervention of sepsis, it will run its course, under proper conditions, and end in complete recovery without the permanent disabling of any of the pelvic contents.

Septic or specific infection of the genital tract, the former either through wounds in operations, or those caused by child-birth and abortions, are the prime factors in pelvic inflammations. The infection, owing to the continuity of the genital tract, usually passes from the uterus to the tubes, and thence to the peritoneum, either through their fimbriated extremi-

*Read at the April meeting, 1898, of the Norfolk Medical Society.

ties or through the walls of the tubes, when their tissues are much involved.

The cases of infection through the lymphatics are much more rare. These septic and specific agents vary in intensity and enter through the uterus and tubes, exciting inflammation of various grades of severity, producing salpingitis in its various forms from the simple catarrhal variety, which may relieve itself by discharging into the uterus, or a hydro-salpinx, or ending in the conversion of the tube into a pus sac, and exciting exudation of lymph, peritoneal agglutinations, and destroying the distinctive anatomical relations of the pelvic organs.

It is not my intention in this brief paper to enter into a description of all the pathological changes that ensue in pelvic inflammation. They are or should be well known to us all.

To prevent the occurrence of pelvic inflammation, the presence of vaginitis, specific or otherwise, or of endometritis, should caution us to use due diligence in the treatment of these affections, being particularly careful in our manipulations not to add to their severity by the introduction of additional septic poison. In all local treatment of uterine and vaginal affections, the most scrupulous care must be employed to prevent septic dissemination while treating the existing condition.

We know that after the ordinary taking cold, we first have a congestion of the nasal mucous membranes, followed by catarrhal discharges, then soreness of the throat, with hoarseness from the invasion of the larynx, then trachitis followed by bronchitis of greater or less severity, cough, etc., and in some cases pneumonia when the diplococcus is present and active.

We might reasonably expect the inflammation to pursue a similar course along a continuous mucous tract in the genital canal. Why some cases of endometritis, cervical or corporeal, should remain seated in the cervix or body of the uterus, without infecting the tubes, nobody can explain. Perhaps the nature of the infection may account for it.

After a labor or abortion, should the temperature rise with or without a chill, local measures should be at once taken to minimize the infection at the exposed point, or prevent its further absorption. Vaginal and intra-uterine antiseptic douches, repeated with sufficient frequency to ensure a fall of temperature. If the latter persists more than twenty-four hours, no more time should be lost in the hope that other causes may be at work to produce the fever, but a thorough curetting of the uterus, preceded and succeeded by antiseptic

douches, to remove the debris and thus ensure the best results.

If the tubes and peritoneum are invaded in spite of the local treatment practiced, then our efforts should be restricted to assisting the vis medicatrix nature to repel and withstand the disease. This condition may exist when the physician is first called. The ordinary indications are to secure rest in the most comfortable recumbent position, to secure a thorough evacuation of the bowels by salines. The constipation is rarely so obstinate in pelvic as in general peritonitis. Hot vaginal douching with large quantities of hot water. In large and continuous douching, hot water produces its most happy effect upon the vaginal and adjacent tissues. The pain may be controlled by morphia, or the liquor opii co., the former under the skin, the latter by mouth. Hot fomentations were formerly invariably and are now advised by unquestionable authorities. I prefer the ice-bag, as it retards the spread of the infection and relieves pain, but it does not prevent the formation of pus when the infection is present in potent quantities. It is cleaner and as efficient as other local applications.

The nutrition of the patient is to be sedulously guarded. The sipping of hot water in the accompanying nausea and vomiting is preferable to ice, and an effervescing bromide of potash mixture I have found to give much comfort. Stimulants should be administered when necessary, either by the mouth or rectum.

When the severity of the acute symptoms have subsided and the temperature becomes normal, should the organs remain more or less fixed by adhesions, counter-irritation to the pelvic roof may be made by the application of iodine, aided by tampons of glycerine or boroglyceride. Flying blisters of moderate size to the lower abdomen are also of service.

The patient should be guarded against premature exercise while convalescing.

I have purposely omitted the mention of many remedies formerly recommended in the acute stages of pelvic inflammation. Most of them are valueless, inflicting unnecessary discomfort upon the patient, and doing little or no good. The less active medicine prescribed the better for the patient.

If pus be the result of the attack, it should be evacuated at once. As before stated, some cases of pelvic inflammation recover entirely, without a remnant of the lesion remaining and enjoy subsequent health. But many have repeated attacks from the lighting up of fresh inflammation in or about the organs crippled

by the first attack. The tubes and ovaries may be hopelessly injured and life of ill-health and pain remain, until surgical treatment is instituted.

I shall not devote further time to the changes set up by acute pelvic inflammation, and which in the chronic form of the disease are present and require surgical treatment. But, as a sequel to this statement of the prominent features of pelvic inflammation, I append a short history of a few cases which have been cared for by myself in further illustration of the subject.

In the spring of 1883, Mrs. W., aged 35, was sent to me. She had had an abortion some weeks previously, at her home in the country, followed by pelvic peritonitis. An abscess or abscesses had formed, and was now discharging from a fistulous opening in the left groin just above Poupart's ligament. She had constant fever and was much reduced. Her general condition was exceedingly bad. Such nourishing food and stimulants as the stomach would bear were ordered. Inflexible catheter could be passed for eight inches through the fistula into the abscess cavity or tract. Through this catheter was carefully injected a solution of carbolic acid, beginning with one per cent. and gradually increasing the strength until after some days; the strength of the solution was such as to coagulate and change the color of the return discharges. An attempt was made to reach every part of the cavity with the solution. In two weeks the discharge had materially lessened, and at the end of the fourth week the fistulæ had closed. The uterus was displaced to the right, and but slightly moveable. The pain had ceased and the patient went off to the mountains. At a subsequent examination in the late fall, there was little to indicate that there had been grave pelvic disease. She has never had a return of the disease, and is now a large stout woman.

The next case is that of Mrs. S., of Norfolk county, who had pelvic inflammation following her first labor. When coming into my care in the summer of 1883, she was scarcely able to drag herself about. The whole pelvic roof had a boggy feeling, the cervix fixed and painful to the touch. A fistula from a pus collection above was discharging into the rectum. An incision was made behind the cervix, which reached the pus cavity. This was enlarged, kept open, and a solution of carbolic acid, of gradually increasing strength, as in the former case, was injected by means of a flexible tube to every part of the abscess cavity. The fistula into the bowel closed spontaneously in

about ten days, and in three weeks more the cavity had contracted, the discharge from the new opening ceased, and the patient soon became, to intents and purposes, a well woman. She has never had any return of pelvic inflammation, and has for all these years had uninterrupted health.

Neither of these women have conceived since their attacks. Their tubes and ovaries were functionally, if not structurally, destroyed. But neither have had recurrent peritonitis. I have had other similar cases, one of which was treated in 1867, in conjunction with the late Dr. W. J. Moore, in which the pus escaped through the bladder, but she recovered slowly, but has to this day, for she is still living and in fair health, not had a return of pelvic disease.

These cases occurring years ago, I have selected from my notes, and they illustrate the fact that some of these very bad cases of pelvic inflammation may entirely recover, with no recurrent attacks, and enjoy as good health as those who have been submitted to cœliotomy in order to clean out the pelvis and remove entirely diseased ovaries and tubes.

But there are other and numerous cases of pelvic disease that cannot be thus treated, and radical operation is necessary.

The following cases I submit, as not amenable to treatment from the vagina alone:

A few months since Mrs. L., a young woman, was placed in my hands for treatment. She had had preparatory treatment by a medical friend for some weeks. Upon examination, a tumor, apparently solid, was felt to the right and somewhat behind the uterus. It was high up, could hardly be reached by the finger, and was painful to the touch. She had long suffered from pain, had digestive difficulties, but was fairly nourished. Relief was demanded. Upon exposure to sight after the section, in the Trendelenburg's position, the right pelvic region was found roofed over by a thick adventitious membrane, completely covering the ovary and tube. An opening into this from behind and below was made with the fingers, and, by continuing the manipulation beneath, I soon shelled out the enlarged ovary, the ligament of which had become softened and disintegrated. There was no pedicle to ligature. The mass was about the size of a pullet's egg, and contained two distinct cavities filled with pus. There was some oozing, and from the bottom of the cavity from which the ovary was taken an opening was made into the vagina, which had been previously disinfected, the cavity packed with gauze (iodoform) which extended

into the vagina to secure drainage. The roof of the cavity which I had opened with my fingers was stitched back as before with catgut, leaving a clean smooth surface for contact with the bowels. The gauze drain acted well, and by the fifth day had been entirely removed. This patient had not subsequently an unfavorable symptom, and is now well.

The second case, in the same category, has been operated upon recently. The woman, M. E., aged about thirty years, had had pelvic peritonitis last year in a Brooklyn hospital. Since then inability to work from pain. I found, upon examination, a tumor closely attached to the right side of the uterus and apparently identical with it. It moved with the organ, and there was no sulcus between the mass and the uterus, which measured three and a half inches in depth. There was tendency to hemorrhage. I was in doubt whether the mass was a sub-peritoneal fibroid or not. The woman clamored for operation, and was told that operation might necessitate the total removal of the uterus. Inclining to the opinion that there was fibroid, one week before the day set for operation, the uterus was curetted and cleaned out and packed with iodoform gauze. Preparatory treatment was instituted, and, at the expiration of the week, section was made, and the mass, with the uterus, from its centre to the right side of the pelvis, was found covered with adventitious membrane, the right ovary projecting up, but also covered by the same. In working with the fingers under and around the mass, it was found to be a large tense pus tube closely adherent to the uterus, giving the impression to the eye and touch as if it were a part of the uterus itself. In the effort to enucleate it, the walls of the tube gave way and pus freely flowed out. This was speedily mopped away as it flowed out without soiling the intestines, and what could be gotten up of the tube was, with the ovary, ligatured and removed. The oozing cavity below was packed with iodoform gauze, which as before drained into the vagina, the parts readjusted, and the abdominal wound closed.

This case progressed most favorably, and had absolutely fattened before she left hospital.

Now there is a prejudice against this practice of drainage through the vagina entertained by many eminent gynecologists, grounded upon the fear of infection from that source.

I have done no little vaginal work, and always found the dependent part the best from which to drain. It is said that such pelvic wounds should be well dried, hemorrhage all arrested, and hence drainage unnecessary.

But where there is so much tearing of the tissues, as the extirpation of diseased masses in chronic pelvic disease, drainage, and drainage in the manner indicated above, is plausible, and in my own experience perfectly safe, much safer than through the abdominal wound by tube or gauze with the risks of non-union and subsequent hernia. These cases are submitted, the first two, as instances of what followed acute pelvic inflammation, and their treatment, without section, and the latter two, as cases of chronic pelvic disease, and the treatment by abdominal section.

The paper is submitted more that it may elicit discussion than as a strictly scientific monograph.

122 Freemason Street.

PLEURISY WITH EFFUSION.*

By CLIFTON MAYFIELD, M. D., Washington, D. C.

Until Lænnec first gave an accurate description of the symptomatology of pneumonia, both it and pleurisy had been known under the name of lung fever.

While we may justly infer, from the frequency with which pleural adhesions are found after death, that dry pleurisy, either primary or secondary, is not infrequent, yet pleurisy with effusion is rarer and is much less frequently met than pneumonia.

ETIOLOGY.

Cold is generally assigned as the cause of the attack; but, while it is certainly an exciting agent in many cases, some predisposing cause usually, if not always, is present, and that most frequently found is tuberculosis, either in subjects already the victims of pulmonary tuberculosis, or in those who later develop the disease in its active form.

Statistics to be obtained as to the number of cases which have personal history of pre-existing tuberculosis, are not of such positive nature as to be of much value. Of greater significance are the figures that show the proportion of those who have had pleurisy and later give distinct evidences of tuberculosis. Whitney, quoting from several sources, gives 300 cases of primary pleurisy, and of this number 178 were known to have later developed tuberculosis. He concludes that, as a safe estimate, 30 per cent. at least die of the latter disease.

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, March 3, 1898.

Osler found, in 101 cases examined post-mortem, 32 positively tuberculous and 13 showing slight evidence of such condition in the lungs, but no evidence of tuberculous pleuritis. So far as my own experience goes, the majority of the cases that I have observed have been of that class denominated, in insurance parlance, "bad risks," and quite one-half have had well-pronounced tuberculous family histories.

Eichorst, after numerous experimental injections of pleuritic effusions into the abdominal cavities of guinea-pigs, found that nearly two-thirds of his cases of acute serous pleurisy were of tubercular origin.

Donkin, in the report of the Westminster Hospital, 1888, insists upon the almost universally secondary nature of pleurisy; that at least most of these pleurisies are more or less directly connected with some discoverable antecedent conditions. He believes that the most important group consists of those cases associated with tuberculosis; and that, in many of these cases, even where no physical signs can be detected, the pleurisy will be followed by pronounced evidences of tuberculosis.

Rheumatism probably stands second in importance to tuberculosis as a causative factor; and under the term rheumatism I do not include that wide range of cases ordinarily embraced under the term "taking cold." Such pleurisies may be looked upon as a direct manifestation in the pleura—as is so often seen in the peri- and endocardium—of the rheumatic trouble. Still it is true that pleurisy, as a complication of acute articular rheumatism, is rare.

James, of Edinburgh, holds that while pleurisy is frequently the result of predisposing tubercular disease, it is likewise in many cases the primary condition which, by damage to the lung, leads up to tuberculosis. Such contention appears reasonable, but is scarcely susceptible of proof or disproof.

Other causes of the disease are syphilis, the acute infectious diseases, and infection by pneumococci, and as a result of the cachexia attending renal and cardiac disease. Pericardial disease may be, and cancer of the mediastinum and all growths and wounds of the pleura are, usually accompanied by effusion.

The sero-fibrinous character of the fluid attending pleuritis may undergo a change in the course of the disease owing to infection by pyogenic microbes, the pneumococci, or the bacilli of tuberculosis, thus constituting an empyema—or, as a result of pleural or mediastinal cancer or pleural tuberculosis, may become hemorrhagic.

Either empyema or hemorrhagic effusion may also exist as a primary condition from the causes just enumerated, and the amount of hemorrhage may vary from a quantity sufficient only to cause a slight pink discoloration to a pronounced bloody color. As a general rule, hemorrhage into the pleura is, however, much more abundant in cancer than in tuberculosis.

A chylous pleurisy may possibly exist, as described, but such cases are probably the outcome of some solution of continuity of the thoracic duct, either as a result of injury or disease and the excitation of a pleuritis by the effused chyle. The effusion may, however, bear some resemblance to chyle from the presence of fat and disintegrated cells and fibrin.

PATHOLOGY.

The pathological changes are, in a general way, similar to those that take place, in like conditions, in other serous membranes.

First is the stage of capillary engorgement; the membrane becomes dull in appearance; fibrin is deposited upon the surface; there is connective tissue proliferation, following a general penetration of the entire thickness of the pleura by connective tissue cells, and in some cases this thickening may be extreme.

The congestion of the membrane is soon attended by an effusion of a fluid in color much like blood serum. Adhesions may form, and sometimes, as a result, encapsulation of the fluid. The amount of fluid may be slight or very great, even to the extent of several quarts, as in the case I present to-night.

In empyema, the appearance of the pleura may vary from a gray to a brown color, with considerable deposits of fibrin. The fluid may vary from an opaque, with slight viscosity, to a very thick yellowish, or even brownish, with marked offensive odor.

Where blood has been effused, the fluid may bear the characteristic appearance, or there may be found a disintegrated blood clot, with the fluid usually found in empyema.

In tuberculous disease of the pleura, the membrane is greatly thickened, its surface uneven, and section shows the presence of tubercles.

The volume of the exudate will determine the displacement of thoracic and abdominal organs. The lung of the affected side will be compressed to a slight degree in all cases, and the amount of fluid may be so great as to completely compress it, and cause displacement of the heart to the opposite side, and of the liver or spleen downwards.

CLINICAL HISTORY.

The attack usually begins with chilliness, but a pronounced chill is rare. Usually, the patient's first complaint is pain with respiration, or, on coughing, referred most frequently to the side somewhere near a line drawn horizontally from the angle of the scapula. I have found that the patient, when in bed, usually lies upon the back, or but slightly turned toward the affected side, thus, at the same time, avoiding pressure upon the inflamed part and securing the freest possible movement of the chest in respiration.

Cough is an almost invariable accompaniment of the first stage, and very frequently persists in the stage of effusion. It is short, dry and hacking, characteristically unlike the stronger, moist, and expulsive cough of pneumonia, and causes marked suffering. Breathing is hurried and catching, and the sufferer complains of shortness of breath. Temperature is moderately elevated, usually but little over 102°, especially in the tuberculous cases, and is inclined, after a few days, to run even lower. The pulse, usually small, is only moderately accelerated in keeping with the elevation of temperature. The countenance is anxious, and, if flushed, it is only at the commencement of the attack, and is not marked. Appetite is impaired, the tongue slightly coated, and the bowels usually constipated.

In many cases, and especially have I found it so during the present season, the patients, while conscious of something radically wrong, have yet continued to attend to their usual duties for a week or even more after the onset. The constitutional symptoms in these cases are usually not so marked, but the effusion may be considerable. It is the persistence of pain, cough, dyspnoea, and general malaise, that finally causes them to seek advice, and these, with the pale and anxious countenance, foretell what physical examination is likely to show.

When the disease begins as a primary empyema, the initial symptoms are the same as in the sero-fibrinous type, except that the rigor is more marked and the temperature is higher. There may also be more disturbance of the intellect, with repeated chills, brown tongue, and sweats, to call attention to the probable purulent condition.

When the empyema is secondary to the serous form, the fever persists beyond the usual period, especially marked in the evening rise; during sleep, profuse sweats occur; anorexia exists; sleep is broken and disturbed by dreams;

and emaciation is progressive. In the later stages, diarrhoea is prone to supervene, and unless relief is afforded by operation, or rarely by spontaneous evacuation, death results from exhaustion. Where spontaneous evacuation does occur, it may be by the lungs or through the intercostal spaces, but the drainage is usually so imperfect as to make imperative the usual operation for the relief of empyema.

The symptoms of *hemorrhagic pleuritis* are at first the same as those of the sero-fibrinous form; but in the later stages if disintegration of blood clot and purulent changes have taken place, the condition has really become an empyema and exhibits all the symptoms of that state.

Pleurisy complicating pneumonia usually begins with or at least follows closely upon the initial symptoms of the latter disease.

In a recent case of my own, the characteristic signs of pleurisy were present several days before the presence of pneumonia was determined. The case was one of influenza, and the pleuritis began on the second day of a relapse, signs of solidification appearing three days later. Effusion was very slight, but the friction sounds, the pain, the dry, distressing cough, together with a rather pale and anxious face, and a temperature of 102.2°, caused me then to make the diagnosis of pleuritis. If any solidified area existed at the time, it was not to be detected.

The rare occurrence of a *partial pleuritis*, with effusion only between the lobes of a lung, must be noted. Such a condition must be the result of a previous general pleuritis with resulting adhesions between parietal and pulmonary pleurae. They usually become purulent and terminate by discharge through the lung. The characteristic indication of this partial pleuritis is a strip of dullness nearly one inch in width, extending from the fourth dorsal vertebra obliquely downwards and outwards.

PHYSICAL SIGNS.

The only physical sign peculiar to the first stage of uncomplicated pleuritis is friction. It is described as very characteristic, and once heard thereafter easily differentiated, but I am sure that I have more than once heard it so soft in character as to sound much like a subcrepitant râle. It is at first heard particularly over the lower half of the chest, and disappears from below upwards as effusion takes place. Usually signs of the effusion may be detected as early as the second day, and are in keeping with the amount of fluid.

Inspection shows lessened respiratory move-

ment, and some increase in the measurement of the side involved. Where there is marked fluid accumulation, the intercostal spaces will likely be pressed outward. Vocal fremitus is lessened or absent over the effusion, but increased above it.

Flatness is found on percussion, the highest point at which it is found being, in moderate effusions, toward the axilla, and its lowest posteriorly. In slight effusions, however, the highest point is more toward the spine, while in very marked cases there is decidedly less of a curve at its upper border.

According to the amount of fluid, the heart may be found to be more or less displaced to the opposite side, and the liver or spleen downwards. I do not believe that such displacement is found in slight effusions, more especially of the right side; neither do I think that moderate exudations appreciably compress the lung of the sound side.

Above the fluid and in front we find tympanitic percussion note, while at the back it is dull.

Over the effusion the respiratory murmur is diminished or absent, but when heard is less vesicular or is bronchial according to the degree of compression. Over the lung itself, it is, with little fluid, vesicular in front and bronchial near the spine. With increasing effusion it becomes more and more bronchial, until even all respiratory sounds may disappear owing to extreme compression. The voice sounds are usually quite pronounced over the upper portions of the fluid, but lack distinctness and usually possess the nasal tone described as *œgophonic*.

Empyema and hemorrhagic effusions give practically the same physical signs as the serous type; possibly there may be more distinct transmission of the whispered voice.

TREATMENT.

The treatment demanded at first will be such as tends to limit the inflammatory process and relieve the distressing symptoms, cough and pain. Dry cupping and leeching have been for a long time extensively used, but I have found more satisfaction from the use of the mustard poultice, followed by hot applications. Hot flaxseed poultices or cloths wrung from hot water and covered with oil silk are far better than the cotton jacket so commonly used in pneumonia, for they afford much greater relief from pain. As a febrile, tincture of aconite with solution of ammonia acetate, meet the indications well; but the former must be used cautiously. The coal tar products should, un-

der no circumstances, ever be used. The bowels should be regulated by saline laxatives daily. Sulphate of codeia in half grain doses every three or four hours will aid greatly in relieving cough, but where pain is marked, opium in some form, preferably Dover's powder, is necessary. With the establishment of effusion and the disappearance or decline of fever, pain usually subsides, though cough of a less harassing character may persist. The treatment now should be directed to the improvement of the general condition of the patient, and, as far as therapeutic measures can do it, to the removal of the fluid. Iron and strychnine are foremost in value as general tonics; while digitalis and acetate of potash in combination best promote diuresis.

It is scarcely necessary to say that wherever the rheumatic or specific origin of the pleurisy is suspected, treatment directed to the relief of such conditions is indicated.

During the febrile stage the diet should be strictly liquid; later it should be of the most nutritious and easily assimilable character, though the amount of fluids given should be limited, unless the gastric condition contra-indicates any considerable amount of solids.

No therapeutic agent has afforded me more satisfactory results in hastening the disappearance of fluid than the fly blister. It should, of course, be applied over the seat of effusion; should be about two and a half by four inches; and as one blister ceases to exude, another should be applied beside it, the applications being repeated as condition of skin will permit.

Just at what period reliance upon drugs alone should cease and aspiration be practiced, it is hard to determine. Speaking in general terms, I should say that we should have recourse to thoracentesis when the fluid has reached the level of the fourth rib; although I have found that flatness may be complete except at the extreme apex, and yet rapid recovery follow upon aspiration. From such a case recently nearly three pints of fluid were withdrawn, leaving dullness still existing up to the fifth rib, but absorption of the remaining fluid went on rapidly to recovery. That it is dangerous, however, to delay too long cannot be denied, for it is by no means sure that the lung will expand properly, or that irremediable damage may not have been inflicted even if it does expand.

Fluid absorbed under medication and blisters is less likely to recur than after aspiration. When it does recur it will be necessary to repeat the aspiration, or, perhaps, to establish permanent drainage.

Where the effusion is hemorrhagic and recurs after aspiration, it is a grave question to determine the advisability of repeating the operation, in view of the almost certain existence of tuberculous or cancerous pleuritis.

Empyema undoubtedly should not be permitted to exist any great length of time after a diagnosis is made, without evacuation; and in the event of recurrence, the establishment of free drainage with possibly resection of a portion of rib.

The best point for aspiration is the fifth or sixth intercostal space in the axillary line or just posterior thereto.

The amount of fluid to be withdrawn will depend upon the quantity contained in the cavity and the effect of its withdrawal upon the patient. When cough and pain, with faintness, supervene, withdrawal of the fluid should stop.

Great care should be exercised to avoid the possibility of infection, more especially where the fluid is yet serous, lest we convert it into an empyema.

In connection with this subject, I wish to record the following interesting case:

Mrs. F., white, 39 years of age, and the mother of four children, had enjoyed good health until July, 1896, when she consulted me as to the significance of a growth in the left breast. The neoplasm had first been observed several weeks before this consultation and soon after the receipt of a blow from a hammer that fell on her.

Her mother's father and his three brothers and her mother's mother and her brother all died of tuberculosis. Her mother's sister died of cancer of the stomach and another sister suffered with cancer of the breast, which was removed and did not recur. The family history on her father's side was good.

At the time of the consultation, my patient's health was somewhat poor from overwork and worry. The growth was diagnosed carcinoma, and the following month (August) was removed by Dr. A. A. Snyder, at Garfield Hospital. After the operation the patient's health continued fair until May, 1897, when she complained of marked digestive disturbances, insomnia, severe headaches, photophobia, and general weakness that interfered with any prolonged effort. Close attention to her business and the care of her household were considered to be the causes of the depreciation of her health, and she was sent to the mountains, but returned home two weeks later far from improved.

In October, she began to complain of fullness and oppression in the upper sternal region,

with inability to lie upon the right side without distress, and of pain of a sharp cutting character on inspiration.

A few weeks later, she began to suffer with a persistent and harassing cough. Effusion of moderate extent was observed which gradually increased up to the fifth intercostal space, at which point it, for a time, remained stationary. There was increasing loss of flesh and strength, and soon sweats, at first of moderate degree, but with the progress of the disease becoming very profuse.

Shortly before December 1st, there was a sudden increase in the intensity of the symptoms, and the flatness increased rapidly over the entire right side, except the extreme apex. Dr. Snyder saw the case in consultation, and the chest was aspirated, only two ounces of fluid being withdrawn. This fluid resembled blood, and on microscopic examination showed only blood corpuscles. Later in the month, the patient was removed to Garfield Hospital, and the chest aspirated, and 18 ounces of fluid withdrawn of the same macroscopic and microscopic appearances as that of the previous operation. The lung expanded, and the patient improved as regarded cough and dyspnea, but the pain and sweats continued. Within less than three days, the chest had refilled and was again aspirated and four ounces withdrawn, when it was thought best to abandon the operation on account of the very bloody character of the fluid and the slowness with which it could be withdrawn. Notwithstanding the negative results of examination, the case was thought to be one of cancerous degeneration of the pleura or mediastinum, more especially as there was a recurrence of the growth in the scar of the operation wound.

Expectoration began about December 1st, at first slight in quantity, but becoming more profuse until death. Examination of the sputum was negative, except on one occasion, when some few suspicious, but not typical, tubercle bacilli were found. The pain over the right side grew more intense, and was referred to the lower border of the ribs. Flatness extended down the entire right side of the abdomen and well over to the median line. For several days preceding death she complained of severe pain in the left side, and on the morning before she died was taken suddenly with intense pain in the heart, became collapsed, and was thought to be dying, but in two or three hours had rallied, complaining bitterly of the great pain in the heart until she died, 24 hours later.

The temperature throughout the illness was rarely above 101°, though it did go as high as

102.5°. There was, however, constant elevation.

The bowels were constipated, but reacted readily to drugs or injections. Complete loss of appetite existed throughout. Urine was normal as regards quantity and the absence of albumen and casts. The mental faculties were not at all impaired. Heart action was good, though rapid, until the last 24 hours of life, during which time it was tumultuous and very weak.

Death occurred at 8.30 A. M., January 30, 1898. A post-mortem examination was made four hours later, but unfortunately the body had been previously embalmed. There was slight rigor mortis and the body was very much emaciated.

The stomach, spleen, pancreas, intestines, and genito-urinary organs were apparently normal. There were no adhesions of liver or kidneys nor any peritoneal complications. ■

The right pleural cavity was completely filled with a thick sanguino-purulent fluid of slightly offensive odor.

The pleura was greatly thickened, and the diaphragm, pressed down by the immense accumulation of fluid, had displaced downwards the much enlarged liver. The right lung was completely compressed and the left lung emphysematous. The heart was displaced to the left; the pericardial sac thickened, showing recent pericarditis with a considerable accumulation of flocculent lymph.

Following is the report received, by the courtesy of Dr. Walter Reed, Curator, from the Army Medical Museum:

Gross appearance.—The specimen consists of the lungs and heart. The right lung is compressed into a flat, hard, airless mass; the parietal pleura everywhere much thickened; loosely attached to the pleural surface is seen a decolorized, friable blood clot. Left lung showed some emphysema at the anterior margin and a few scattered nodular fibrous thickenings of the pleura. Pericardial sac contained several ounces of a turbid serum. Both layers of pericardium covered with recent exudate.

Microscopical examination of the compressed lung shows marked fibrous thickening of the pleura with complete collapse of the pulmonary alveoli.

1335 30th Street, N. W.

DISCUSSION ON PLEURISY.

Causes of Pleurisy—Exposure, Sex, Enfeebled Micro-Organisms—Tuberculosis, Traumatism, Malignant Disease.

DR. W. B. FRENCH said that the frequency of pleurisy in the spring and winter months,

when temperature fluctuations are extreme, would lead us to think of *exposure* as one of the etiological factors in the production of the disease. Whether that cause can be proved to be the true one or not, it is certain that we meet a large number of cases that can be explained in no other way. He is perfectly aware that it is not a scientific explanation, and that it is a cause assigned as to the origin of many other diseases, yet the coincidence of exposure followed by pleurisy is too frequent not to be noticed. Ziemssen, in 54 cases of primary pleurisy, did not assign cold as a cause in any of them; yet our personal experience is so convincing that it is often difficult to accept the results of another's observation, even when we feel that his opportunities have been greater.

In defense of that position, he would say that an unquestioning belief in what are generally accepted as facts in medicine, would promptly bring us to a standstill. In the absence of a conclusive demonstration, we can only speculate, and hope to arrive at some definite facts. *Sex*, by some writers, is thought to be a predisposing cause of pleurisy—the disease occurring rather more frequently in males than in females, especially in the adult. If cold (and by cold was meant undue exposure), as suggested is a factor, then the more exposed life of the male would perhaps be an explanation of why he is more susceptible. Among children, where the susceptibility does not seem to be greatly influenced by sex, the same explanation, exposure, may be offered, for the little folks are about equally exposed. Generally speaking, the *poor and enfeebled* are more likely to suffer than others; their resistance is lowered by privations of various kinds, such as want of proper food, clothing and hygienic surroundings. That *micro organisms* may play an important part is true, no doubt, especially when the simple sero-fibrinous exudation becomes purulent. Pus organisms are found together with pus cells, sometimes blood cells and leucocytes. Streptococci are more often met with in the exudate following septic infections, where the pleurisy is a secondary trouble, as after typhoid, scarlatina, sometimes measles and whooping cough in children. *Traumatism and malignant disease* of the lung or neighboring structures are other additional causes of empyema. *Tuberculosis* is perhaps, by reason of its great frequency, one of the most common causes of pleurisy; the effusion which sometimes accompanies it may become infected by direct extension of the tubercular process into the pleural exudate. He thinks it rare to meet a case of pulmonary

tuberculosis in which pleurisy is not a very troublesome complication—mainly, however, by reason of its painfulness. Limited experience would lead him to believe, however, that effusion to any noticeable degree was generally absent, or if present, its symptoms are so masked by the prominence of the other troubles of the patient that it is often not looked for. He concluded, then, that some of the causes of pleurisy with effusion were: Exposure and chilling of the body; a number of infectious diseases, as pneumonia, tuberculosis, typhoid fever, inflammatory conditions of neighboring organs, Bright's disease and traumatism.

Aspiration—Some Causes, etc.

DR. CARR said that permanent drainage is not necessary unless there is empyema. If the effusion remains stationary, and the symptoms are bad, aspirate; aspirate as often as necessary, generally no bad effects follow. If the fluid returns, it is then due to tuberculosis or inflammatory disease. There is no doubt about rheumatism, diabetes mellitus, tuberculosis in other locality, as causes. Traumatism is more apt to produce septic pleuritis. If pleurisy is idiopathic, with effusion it is apt to run a good course and disappear.

Strapping Chest—Catharsis and Diuresis—Counter Irritation—Blister.

DR. VINCENT said that in the treatment of pleurisy with effusion, he had had good results from strapping the chest, after the manner made use of in fractured ribs, coupled with free catharsis and diuresis; also by the free and generous use of the dry cup and counter irritation by mustard; and where pain and symptoms were severe, by the use of the fly blister. Agreed with Dr. Mayfield in every particular of treatment he had mentioned.

Pleurisy is an Infectious Disease.

GENERAL STERNBERG said that pleurisy is probably always an infectious disease, although it has not always been possible to demonstrate the presence of pathogenic bacteria in the exudate into the pleural cavity. In the cases of tubercular origin the localized infectious process may be of limited extent, and the number of tubercle bacilli in the exudate comparatively small. In the cases due to the presence of the pneumococcus this micro-organism is probably often only to be found during the earlier stages of the pleuritic inflammation. Later it dies out and consequently cannot be obtained in cultures. When cultivated in artificial media this micrococcus often dies out within 48 hours and the cells soon become disintegrated. It is hardly accurate to speak of a

traumatism or exposure to cold as the cause of pleurisy. No doubt exposure to cold may act as an exciting cause, as is the case in pneumonia or influenza; but in the absence of the specific infectious agent no amount of exposure will give rise to a localized infectious process such as we have in pneumonia and in pleurisy. A traumatism may open the door for invasion of the pleural cavity by pathogenic bacteria; but injury to a serous membrane, in the absence of any pathogenic micro-organisms, simply results in a conservative adhesive inflammation. In this connection the experiments made by the speaker in 1885 are of interest, in which a considerable quantity of powdered glass, which had been carefully sterilized, had been injected into the cavity of the abdomen of rabbits. No general inflammation of the peritoneum occurred in any case. No fever resulted, and the animals continued to gain in weight and remained in perfect health. When, after the interval of a month or more, they were killed and examined, the particles of glass were found to be encysted; the separate particles, or little masses, being enclosed in a fibrous capsule.

In Conclusion,

DR. MAYFIELD said that the paper had aimed to present the subject as he had observed it in private practice, and not in any new light, and it had served well the purpose of eliciting a valuable discussion.

He was entirely in accord with Dr. Sternberg as to the effective cause of the disease, and looked upon cold as only precipitating the attack made possible by the presence of the infectious germs.

He thought that permanent drainage might at times be demanded in the serous form when re-accumulation of fluid took place rapidly after aspiration, and there was urgent need of relief from pressure symptoms.

He did not, however, think that we can hope for great gain from repeated aspirations in most cases, when the cause of effusion continues to act, and there is no tendency to absorption following such aspirations.

He agreed with Dr. Vincent that the condition of the patient and the urgency of the symptoms must be the indications of the necessity for aspiration in particular cases.

He also has found that the flow of fluid is at times interfered with by a change in the position of the needle.

Considering, as he does, that tuberculosis is largely a factor in the production of the disease, the prognosis must of necessity be unfavorable as to the final outcome of the case.

TIGHT LACING—ITS RELATION TO UTERINE DEVELOPMENT AND TO DISEASES OF THE FEMALE ORGANS OF GENERATION.*

By W. E. FITCH, M. D., Savannah, Ga.

My excuse for bringing this subject before this Association is the necessity for seriously considering the evil effects of tight lacing as it exists to-day in civilized countries; and have the profession devise means of informing the laity of the serious effects of this fashion.

This subject is of special interest to the general practitioner as well as the gynecologist, while to the race it is of serious importance. Convinced as to the truth of the claims of this article, I feel no trepidation in condemning this injurious fashion, and ask your support in offering a bold protest against it.

I will try to point out in a practical manner the evil effects of tight lacing, both as a factor in the etiology of disease and as an impediment to normal development of the uterine organs; and at the same time to contrast the well developed conditions and freedom from pelvic ills in those who do not practice tight lacing with the frail constitutions—barrenness and various uterine disorders—found in those who wear the corset tight.

Tight lacing is not confined only to those who wear the corset—for the clothing may be worn so tight as to do practically the same harm, though to a less degree, by gradual compression. Nor is it the only cause of mal-development of the uterus and accessory organs occasioning diseased conditions, but it is one of the chief factors.

Let us briefly review the anatomy of the female pelvis so that we may better comprehend the idea intended to be conveyed in this paper. The pelvis consists of a solid unyielding structure of bones, with a false pelvis representing a truncated cone, the base looking upward and slightly flattened on its anterior. The external and internal oblique, transversalis; pyramidalis and recti muscles, with sheaths and tendons combining, form the lateral and anterior walls of a cylinder continuous with the last named structure. The spinal column lined with quadratus lumborum muscles form the posterior wall.

Inclosed in this cylindrical body (pelvis), from diaphragm downward, are the various

abdominal and pelvic organs, all readily displaced by pressure. The uterus remains in an infantile state until near the approach of puberty, when it develops rapidly and continues to increase in size, proportionately, to the rest of the body, until the normal size is reached, usually between the sixteenth and twentieth year.

The virgin uterus is about two and one-half inches long; its width, at about the level of the Fallopian tubes, nearly one and three-quarter inches; and its weight about twelve drachms. It is suspended in the pelvis by ligaments amounting to little less than folds of perineum. The Fallopian tubes and ovaries, with feeble supports, spread out on the right and left of the uterus in connection with the broad ligaments almost at right angles. The ovaries, formed from the Wolffian bodies, rapidly begin to develop at the age of twelve—a new era sets in—maturation and periodical rupture of the Graafian follicles; the other parts of the generative organs, before and at puberty, rapidly increase in size. At least 85 per cent. of girls develop their generative organs between the twelfth and sixteenth years.

The uterus and appendages are covered, almost entirely, by peritoneum, which is very susceptible to injury even from very slightest causes; the construction of blood-vessels is such as to favor either anemia or congestion according to the degree of compression exerted. The free mobility of the uterus, and the increased supply of blood the parts are receiving, or should receive, enable us to more clearly understand the effects of pressure on an organ requiring rest and freedom during the period of development.

It is at this time, and more frequently earlier, that parents give their consent for the girl to commence the use of the *corset*, and use their own ideas, which are not always moderate as to the degree of constriction. "Either thou art most ignorant by age or wert born a fool."
—White.

The corset is so constructed that when worn it exerts its greatest influence—pressure from above the brim of the pelvis downward, constricting the abdominal walls, the lower part of the thorax, and pushing inward the costal cartilages, often the seventh and eighth overlapping.

The greatest constriction occurs in the immediate neighborhood of the stomach. When distended, as after a hearty meal, constriction produces the "hour-glass stomach" found at times in this class of patients.

The small intestines, with the mesentery

* Read during the Annual Session of the Georgia Medical Association, held at Cumberland Island, Ga., April 21, 1898.

and colon, are crowded into the pelvic cavity. Douglas' cul-de-sac is filled with small intestines which help to cause anteversion of the uterus when the rectum is loaded with feces; and when the bladder is distended, rectum empty, retroversion results, displacing the intestines in the posterior cul-de-sac.

In most cases, compression is so great as to interfere with the normal peristaltic action of the intestines, thereby producing constipation. Compression in any part interferes with physiological functions; therefore we arrive at the following conclusions:

1. The normal breathing of woman is like that of man—abdominal; tight lacing changes the type to costal.*

2. The pelvic organs normally make a considerable excursion with each respiration.† Tight lacing in the upright position checks this motion almost entirely.

3. Sitting or leaning forward lessens intra-abdominal pressure.‡ Tight lacing in these positions greatly increases intra-abdominal pressure.§

4. The uterus is displaced downward by tight lacing from one to two and a half inches. The pelvic floor is bulged downward and the circulation rendered sluggish.

5. Uterine development is greatest from the twelfth to sixteenth year. Tight lacing is usually commenced at this—the period of the beginning of uterine development.

Women when asleep breathe like men; all animals, male and female, breathe alike. Mays has shown that Indian girls breathe like men, and Kellogg has confirmed this observation among several Indian tribes. Chinese women, agricultural women and English pit-brow lassies, and civilized women who have been loosely clothed about the waist, all show the same type of abdominal breathing; and the flimsy argument that chest breathing is normal to woman, because it is necessary during gestation, goes to the wind when it is shown that even in the last months of pregnancy abdominal respiratory movements predominate over thoracic movements. The most active muscle of respiration, the diaphragm, adapts itself to circumstances, so that long distance runners in the quiescent state have least costal breathing of all classes of men.

The Egyptians, who were first in the promo-

tion of civilization, education and art, while permitting variations in luxuries were forbidden to introduce any new ideas of "fashions" in articles of dress tending to constrict the waist or in any way to modify the true teachings of Nature.

Africans, Indians, and all other nations who wear loose clothing are almost entirely free from pelvic disorders. It is in this class of women that we find the most natural and perfect pregnancy, easiest and most natural deliveries and most satisfactory puerperium.

Any physician who has practiced medicine in the rural districts for the well developed and healthy, and later in the city for the delicate, badly nourished, poorly developed, where tight lacing is practically universal, will be convinced that there is an explanation for the frequency of female ills in the latter, as compared to the former. There is no doubt that 75 per cent. of the women who habitually practice tight lacing, to any considerable extent, suffer from mal-development of the uterine organs, especially if the corset is worn at that period of life when uterine development is greatest. It is clear to any thinking mind that mal-development conduces to diseased conditions, and practically renders physiological functions of organs incomplete and painful.

Uterine displacement, about which so much has been said during the past decade, and the treatment of which has been so varied, can be traced back to the "corset" as the main cause.

In no other forms of mammalia, other than mankind, do we find uterine displacement or diseased conditions of the generative organs. Why is this? Tight lacing produces mal-development and displacement of the uterine organs and appendages; thereby menstruation is affected in many ways.

Amenorrhœa frequently is the result of a poorly developed mucosa and its adnexa, together with faulty developed ovaries—a condition which, if neglected, often leads to atrophy; or we may have *congestion with long continued profuse flows*. *Dysmenorrhœa*, I think, is mainly due to mal-development of both the uterus and appendages—the nervous system and also the muscular and cellular tissues rendering them inadequate to their physiological requirements. *Cancer* is a rare disease with the Indians, yet occurring frequently in civilized countries, must have its explanation in some custom peculiar to such civilization. We are cognizant that in the uterus there are embryonic cells which remain through life; they are considered the cause of epithelioma of the cervix;

* Wilberforce Smith, *Brit. Med. Jour.*, Oct. 11, 1890.

† Kellogg and Mary Putnam Jacobi.

‡ Dikman.

§ Schatz' *Archives of Gynecology*, III, 58, IV, 1893.

|| The Corset Question, Kellogg, *N. Y. Med. Jour.*, 1887

and the cervix, in 98 per cent. of cases, is the seat of the cancer—local irritation being the chief exciting cause or generator. Tight lacing produces this irritation by the downward pressure on the cervix against the floor of the vagina. To strengthen my argument I quote from Heart & Barbour: "Up to puberty the mortality for carcinoma is the same; afterward the relative proportion of female to male deaths gradually rises till it attains its maximum, about the age of sixty years."

Miscarriages, lacerated cervix, weak and inefficient contractions of the uterus in labor, protracted puerperium, the results of sub-involution, may often find their true explanation directly or indirectly due to mal-development. The increased frequency of endometritis, hyperplasia, erosion, stenosis, sterility and atresia of the cervix and os, must be largely due to this cause. A large number of the para-uterine cysts, as well as papillomatous cysts of the hilum, parovarium and cysts of the broad ligaments, have their origin in these unobliterated ducts and the remains of the Wolffian bodies. Mal-development is surely accountable for this condition of affairs. Fibroid and other solid tumors of the uterus have their ætiology in mal-development of the organs of generation. This fact is borne out by Schroder and Gusserow.

The only benefit obtained in the treatment of pelvic disorders with electricity is mainly due to its efficacy as an aid to more completely develop the much abused organs. Most women who have practiced tight lacing complain of pain on removing the corset. This pain is due to the effort of the organs to assume their normal positions.

Goethe once said "art is art simply because it is not nature." This is borne out by referring to the figure of females who never wear the corset. Visitors cannot help observing the beautiful and natural figures of Venus de Medicî with many other Roman and Grecian sculptures, and must be convinced that those noble matrons never practiced tight lacing.

Are civilized customs, fashions, and forms of dress more conducive to health than those of the savages? It is thought not. "Is the savage waiting for civilization to offer him ideas and reforms in dress, or is he past it and mastering it?"—*Whitman*, "Seest thou not what a deformed thief this fashion is?"

PREVENTION AND CONTROL OF YELLOW FEVER EPIDEMICS.*

By H. M. FOLKES, M. D., Biloxi, Miss.,

Member of the Mississippi State Board of Health; Coast Sanitary Inspector, etc.

Our duties as public educators are of such wide and varied import, that to discuss them in all their phases and ramifications would require more time than is at our disposal; hence I will touch only upon one of the collaterals—that of the *prevention and management of yellow fever epidemics*.

From the experience of the past, should come the wisdom of the future; upon this predicate I will direct your attention along a line of thought suggested by our epidemic of last summer and fall. This outbreak has become classical, and has clasped between its covers a series of lessons so striking as to forever remain impressed upon the medical mind. Existing for weeks—nay, months—before its nature was suspected, it baffled some of the most experienced diagnosticians that the country possesses before it was recognized as the South's greatest foe. The people have always expected great things from the medical world; and with the above facts staring us in the face, I would feel no little diffidence in approaching the subject matter of our topic were it not that I am impelled by a desire to assist in retrieving the prestige we have so surely lost, and to again uplift our profession to the scientific position from which the people will recognize an ex-cathedra utterance with the deference due to knowledge.

Yellow fever possesses within itself more dread to the South than any other disease. This should not be so, and it will be our duty to demonstrate this fact in a way which cannot be gainsaid. It is a germ disease, and as such is easily and readily destroyed by the use of an acid 1-500 bichloride solution, formaldehyde, sulphur dioxide or steam under pressure at 212 degrees for thirty minutes. The disease requires from one to three weeks to establish itself at a place; or, in other words, to acquire a virulence sufficient to rapidly become disseminated. It should be remembered also that one or two days' sickness in a room does not necessarily infect the room, and that even after the third day the patient can be moved, and the room be comparatively safe. The micrococci are almost entirely taken into the system by the respiratory apparatus; hence, measures

*Read before Medical Association of Mississippi, April, 1898.

looking to disinfection of bodily emanations are indicated, and experience proves their effectiveness. The idea that the infection may be conveyed to a considerable distance by the air is a mistake, as it is extremely doubtful if transmission occurs at more than seventy-five feet.

Yellow fever fomites may be classed as any soft or porous goods, such as clothing, feathers, rotten wood, etc.; as such, they are capable of absolute disinfection. Immunity, while not absolute, is practically so, not over 2 per cent. showing a second attack. Yellow fever is one of the cleanest and most clear cut of clinical diseases. It requires less medicine than almost any malady we treat.

It is not so fatal as many are led to believe. The mortality in 1878 being under 19 per cent., it has shown a tendency to become less and less fatal during each outbreak since that time—that at Jacksonville being 10 per cent.; that at Brunswick 8 per cent.; that of the epidemic this past summer, about 8 per cent. The trouble is that the people remember those who have died, and fail to make note of the many who recover. Again, different localities may, and frequently do, present such a high rate as to forever impress its memory upon the minds of the people.

A case of yellow fever can be treated in a room in a crowded hotel, and by taking the following sanitary precautions no other guest in the place need become infected: Place over the windows a double thickness of mosquito netting or some such material, kept constantly moist with a 1-500 bichloride solution. Remove the patient's gown and bed clothing twice daily, immediately putting the same in a 1-500 bichloride solution. Have a rubber sheet next to the mattress. Have only the fewest possible things in the room, and these are to be wiped with bichloride solution once daily. Place all dejecta, spital, etc., from the patient in the same solution. All cups, towels, glasses, etc., are to be treated in like manner. The nurse should stay in the sick room, or else when going out she should take a bichloride bath, if possible, and put on sterilized clothing all over—her shoes included—unless she is simply leaving for a few minutes, in which case she should take the same precautions as the physician.

The physician should always put on a cotton gown wet with the same solution before going in the sick room; this is to be removed when he comes out, and his hands and face should receive a formaldehyde or bichloride bath at once.

On recovery or death of the patient, if the room and its contents are thoroughly disinfected, it will positively prevent a spread of the fever.

In event of death, infection can be prevented by having the burial attendants wear cotton gowns and gloves wet with the bichloride solution. Wrap the body in a sheet wet with the same solution, and then place it in the coffin, which should be securely fastened and under no circumstances reopened. Not more than eight persons should be allowed as active pallbearers to the funeral, which should take place as soon as possible after death—not later than six hours at any time. While it has not been customary, I believe that, having all persons attending the funeral wear gowns and gloves as provided for the funeral attendants, would be an additional safeguard. The people are always willing to learn, and while it will take time to convince them, the day is coming when they will recognize yellow fever as being as completely amenable to measures of isolation, as are smallpox, diphtheria, scarlet fever, etc.

Every quarantine station in the country is an object lesson which would attain infinitely more value if every case of fever entering it should be reported. This has been objected to by some on the ground of alarming the people. I hold to the contrary, that if the people knew, and had opportunity to appreciate the absolute security of these hygienic out-posts, they would quickly become educated to the necessity of the desired ends in the prevention and handling of yellow fever. By all means let us have reports from all the Stations.

All these measures are absolutely valueless, unless we can impress upon the minds of the people the fact that "honesty is the best policy."

The above means all look to the prevention of the dissemination of the disease. We will now direct attention to *its management should it become epidemic.*

While a strong advocate of States rights in health affairs, I must confess to a fascination with the idea of Federal handling of epidemics for the following reasons: They have the power of securing uniformity in rules and regulations, the authority in interstate questions, the likelihood of its officers not being swayed by local influences—though this has certain drawbacks—and finally, what to my mind most recommends it, is the opportunity to organize a company of immunes properly officered, equipped and drilled, to act as a cordon around infected points. This company should be sta-

tioned constantly at some Southern place and should be prepared to march at an hour's notice. Such an organization should be ordered to an infected point, placed on duty at once, and could lend invaluable aid in checking the spread of the disease. They should be instructed in all sanitary matters, and those not under arms as guards, could be of service as sanitary inspectors, nurses, etc., in the afflicted place. Not a wheel should turn in the town, not a person go in or out, until this force has arrived by special train.

The cordon once placed, then begins the erection of detention camps and granting privileges to clean immunes. This question of deciding who are immunes, is one of the most important with which we have to contend—carrying with it a grave responsibility on the part of the health official who issues such certificates, as he thereby certifies to the fact of immunity; and in doing so, he should be absolutely certain as to the correctness of the diagnosis in a given case. It is far better to err on the side of safety, and refuse such privileges, unless indubitable evidence is presented. This should consist of a certificate from the attending physician, endorsed as correct by one or two health officers who have seen the case with him. These certificates, being of the utmost importance, should be issued at the time of illness, and carefully preserved by the patient for future use.

The details of detention camps and their management is of sufficient importance to deserve a special paper; hence, I will only refer to them as being one of the most useful adjuncts we have in the management of epidemics. Uniformity of rules and regulations is so essential to an intelligent handling of an epidemic, that it seems hardly necessary to refer to the fact; yet in our own State the recent law is so modified as to almost entirely subordinate the authority of the State Board of Health to any little town who may decline to receive persons absolutely non-dangerous. The proper intent of a law based upon modern sanitary and commercial requirements, is to afford protection and enable business to proceed. Unfortunately, our law largely nullifies the good accomplished at the recent Quarantine Conferences in New Orleans and Atlanta, where were adopted a series of Rules and Regulations positively accomplishing the two requirements above mentioned, safety and continued commerce. Our future laws should be based upon the lines laid down by the above mentioned conventions.

State control of health matters is superior to

that of Federal by reason of its being fundamentally constitutional, on account of its officials being of the people and acquainted with their local peculiarities and requirements, of their rather better knowledge of the local surroundings, of their being more subordinate to those from whom they derive their authority, the people, and not having the halo of authority from the Government shining around them.

ACUTE TUBERCULAR ULCERS OF THE SKIN FROM INOCULATION.*

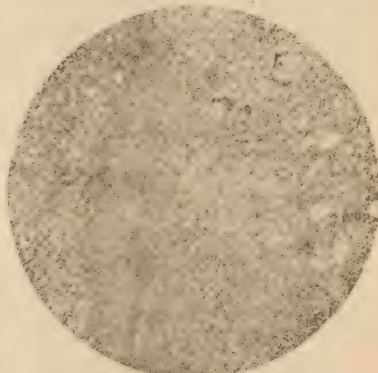
By WADE H. ATKINSON, M. D., Washington, D. C.

No disease has caused so much suffering to the human race as tuberculosis. It has made its inroads in every walk of life; every profession has had its consumptives. The disease has no respect for age, color or nationality, and is found in every clime. There are few family trees in all the history of the world that would not show the blight of tuberculosis among its branches, and often the strongest, richest and most beautiful are first to bow their heads.

Every organ and every tissue of the body seems to have been infected with tuberculosis.

Such a universal and fatal disease must necessarily be of the greatest interest to every member of our profession, and I believe the profession should strive to impress upon the public the infectious nature of the disease, its various forms and manner of contagion.

The very rare form of *tuberculosis of the skin*,



Microscopical section of tubercular ulcer.

and especially its *acute ulceration from inoculation* in those individuals whose family or per-

* Read before the Medical and Surgical Society of the District of Columbia, March 3, 1898.

sonal history show neither tubercular deposits nor lesions in other tissues or organs of the body, are the characteristics I wish to report to-night.

Our knowledge of tuberculosis of the skin from inoculation is of comparatively recent date. The following record comprises the majority of the cases reported in our language up to the present time.

Zeisler's classification* of tuberculosis of the skin is a very good one, for it is justified by a difference in the anatomical structure, and still more by the clinical symptoms peculiar to each.

1. Tuberculosis cutis vera.
2. Scrofuladerme.
3. Lupus vulgaris.
4. Tuberculosis by inoculation.

Under this latter head would fall four subdivisions.

- a. Verruca necrogenica or anatomical tubercle.
- b. Tuberculosis verrucosa cutis (Riehl & Paltauf).
- c. Tuberculosis papillomatosa cutis (Morrow).
- d. Tuberculosis ulcerations produced by inoculation.

The cases I quote (14 in number), and the two cases of my own, come under the subdivision of the fourth classification.

Elsenberg,† in 1886, reported the following cases observed in Billroth's clinic to the Vienna Medical Society:

1. A case of tubercular ulcer which followed the ritual circumcision; the infection was from the mouth of the operator who sucked the fresh wound.

2. A girl, sixteen years old, presented on the lobe of the ear a hard, reddish blue non-ulcerated nodule, which appeared after wearing a piece of red yarn passed through the hole made for earrings.

3. A case of an ulcer on the upper arm developing from a knife wound.

4. A washerwoman, fifty years old, infected her face by scratching an acne pustule, which developed at this point a tubercular ulcer. At the time this lesion appeared, the patient had been washing the clothes of a tubercular subject.

5. In a girl, twenty years old, there appeared a fistula on the arm, with a bluish appearance of the surrounding skin at the point of a subcutaneous injection of morphia; the source of infection was an unclean needle.

Elsenberg says in all these cases small tubercular nodules formed, resulting in atonic ulcers, and showing characteristic giant cells and bacilli. All the ulcers he reported were excised.

Bowen, of Boston, referred to a case of a veterinary surgeon, who received a wound while opening the body of a tubercular cow, from which there followed tuberculosis of the skin, tuberculosis of the lungs, and finally death.

Rutherford* reports two cases of tubercular ulcers occurring in dispensary service—the patients being sisters.

1. A child, eight and a half years old, had a sore, one inch in diameter, to appear on the foot over the bunion joint of the little toe. The ulcer was curetted repeatedly, and points cauterized, which resulted in temporary relief only, but healed after being excised.

2. The second, sister, six years old, was the subject of eight patches over her body; all were excised, and healed with first intention except one, in which granulations showed in the wound. Second excision healed. History of perfect health otherwise. The family history showed all in healthy condition except the father, who had a severe cough and bronchitis, and used a spittoon, which was usually cleaned by the six year old sister. The father, however, would not consult a physician.

In the discussion of Dr. Rutherford's paper, it was thought that this little child carried the tubercular germs under her finger-nails, and infected herself in these several spots by scratching. It is evident to me that the eight and one-half year old child, above mentioned, inoculated herself when walking around with an abrasion in her foot where her father had expectorated.

Another interesting case of a similar nature of inoculation is one reported by Dr. Workman,‡ that of a washerwoman, who fell and cut her foot on a broken spittoon used by a tubercular patient. A tubercular granulating tissue presented itself in the wound, which would not heal until excised.

Hardaway§ reports a case of tuberculosis of the skin, where the first spot appeared on the cheek, and in one month later five or six spots appeared on the face.

Ransom¶ reports the case of a child six years old, where a spot first appeared on the chest, followed by enlarged glands under the arm.

* *Glasgow Medical Journal*, 1894, XLI.

† *Rutherford, Glasgow Medical Journal*, 1894, XLI.

‡ *Amer. Jour. Med. Sci.*, Phil., 1894, New Ser., CVII.

§ *Jour. Cutan and Genito-Urin. Dis.*, N. Y., 3895, XIII.

* *N. Am. Pract.*, Chicago, I., 1889.

† Bowen, *Boston Med. Surg. Jour.*, 1888, CXIV.

Diagnosis confirmed by inoculating a guinea-pig. In the same article, he reports the case of a girl, nineteen years old, who had an unusual case of tuberculosis of the skin. In one year, five different regions of the skin were involved. No mention is made of other tubercular symptoms.

Shoemaker* reports two cases in which the tubercular lesions were much more extended. A girl, fourteen years old, belonging to a healthy family, removed the rings from the ears of a friend who had died of phthisis, and placed and wore them in her ears. An ulcer soon formed on the lobe of the left ear. The tubercular character of this ulcer was attested by the presence of tubercle bacilli. Suppuration of a cervical gland followed, and finally well marked pulmonary consumption.

The second case Shoemaker reports is that of a male, a farmer, fifty-six years old, with good family history. He had had the malady thirteen years. His left cheek was covered with a large, smooth, white glossy scar; lower lid everted. The stripes upon the left side of the neck were well advanced in the cicatrizing stage, dry and partially covered with thin yellowish scabs. The stripe running horizontally across the right side of the neck was studded with warty excrescences of moderately large size. Lesion over the sternum healing rapidly. A few small warty growths projected from its surface. The ulcers upon the back of the neck and scalp were also nearly healed. Just above the sore upon the scalp was a sinus which led down to the bone, and which was found upon probing to be necrosed. For a period of ten years, therefore, the disease remained localized upon the integument, and the man's general health remained good. One year later, however, necrosis of the occipital bone was observed, and an examination showed that pulmonary tuberculosis had begun.

The first case occurring in my own practice was that of Mr. S., thirty-five years old, and a dealer in furs. General health not very good, having had several hemorrhages from the lungs, and at this time has a slight cough. Family history shows father and mother in good health. One brother is in Colorado for some lung affection, and one sister also has had hemoptysis; other members of the family, four in number, in good health.

In September, 1896, patient called to be treated for a small jagged ulcer on soft palate, which healed with great difficulty after having been cauterized, and antiseptic wash used. Syphilis was excluded by history given.

November 9th, I was consulted for a small ulcer on the scalp, over the left parietal eminence, from which several scabs had been picked. The ulcer was washed thoroughly with peroxide of hydrogen. Patient presented himself every second or third day, when all scabs, etc., were cleaned and the ulcer dressed. For nearly two months I dressed this spot from two to three times a week, using different kinds of antiseptic washes, cauterized, curetted, and applied all the different dressing powders I knew. At times the ulcer seemed to be healing, then a relapse would occur, and the ulcer became as large, or even a little larger than before.

The latter part of December the patient grew tired and discouraged; and upon the advice of some one, he fell into the hands of a "cure all with a plaster," and for ten days wore little black patches over his ulcer, which was not washed out during that time.

At the end of ten days he returned. I removed the plaster and found ulcer enlarged, and another small ulcer in the adjoining tissue. Cleaning the scabs and crusts away from the edges, I found the two ulcers connected through a little tunnel, and small punched out pin-head holes in the skin around the jagged, gnawed out ulcers. I at once called Dr. McKimmie, who had been treating an ulcer similarly located upon my own scalp, in consultation.

The second case, therefore, occurred upon a male subject thirty years old, and by profession a physician—myself—and I have always enjoyed good health. Paternal grand-parents died between eighty and ninety years old. Maternal grandfather drowned while enjoying good health, at about the age of forty. Grandmother died suddenly at about fifty-five years of age. My father and mother are both living, and in good health. I am one of ten children, three succumbing to infantile diseases, and seven in good health, the youngest being twenty years of age.

The ulcer upon my scalp appeared about twelve or fifteen days after I dressed the one on my patient's head. It appeared as a raised papule, which I picked off. This I did for a few times before I noticed a little depression, or hole, in the scalp which seemed to be covered with a scab, and the presence of moisture upon its removal. Dr. McKimmie washed and dressed this little place daily for about forty days. At times we were both encouraged by the behavior of the ulcer, and then it would appear to suffer a relapse. In the early part of January, Dr. McKimmie and myself con-

* Jour. Cutan. and Genito-Urin. Dis., N. Y., 1890, VIII.

sulted with Dr. W. P. Carr upon the advisability of excising the ulcer on my head before proceeding further with my patient, Mr. S—, recognizing the similarity of the two cases.

As a result of this consultation, on January 9th, 1897, Drs. Carr, McKimmie and Ellyson excised the ulcer under cocaine anæsthesia. The excised ulcer, through the kindness of Dr. Walter Reed, Surgeon U. S. A., was examined and the following report given:

"Microscopic examination shows an ulcer of the skin, whose floor is covered with a layer of partially necrotic material, consisting of polymuclear leucocytes and fibrin. The cellular tissue beneath the ulcer is densely crowded with leucocytes and young connected tissue cells. In this layer are also to be seen collections of lymphoid cells, together with an occasional giant cell in their midst. Some of these show commencing central caseation. The microscopic diagnosis is, therefore, tubercular ulcer of the skin."

Upon the result of this examination, Drs. Carr, McKimmie and myself excised the ulcer upon Mr. S.'s scalp, completely removing the indurated tissue down to the periosteal covering, and bringing the edges together with deep sutures. Both wounds healed by first intention.

Comparing the two cases, we see an ulcer upon the scalp of a furrier, who deals in animal hides, raw and tanned, and who has shown previous signs of phthisis. About fifteen days after treating this patient, an ulcer appeared on my scalp in the same location, and having the same microscopical characteristics—both patients using the same barber-shop. It is clearly proven to my mind that Mr. S. had an ulcer which came from inoculation, either from himself or the handling of furs; and that I inoculated my own scalp with the tubercle bacilli by scratching the scalp, or else was inoculated by the barber. Upon inquiring at the latter shop, we found that no other patrons had sores on their heads.

Tuberculosis being a disease of a known bacillus, it is, therefore, transmitted by bringing the micro organism in contact with an abraded surface. The bacilli are carried in the sputa, excretions, clothing, or articles used by a tubercular subject. Also from animals, their excretions, hides, offal, and so forth, and among those working in the dead room.

The treatment in these cases has been excising, curetting, cauterizing, electricity, antiseptic washes, and dressing powders of a drying nature, subcutaneous injection of serum, and various salves and ointments. The treatment par excellence is removing all the infected tis-

suess with the knife, closing the wound with sutures, and applying antiseptic dressing. This should be done as soon as possible to remove the source of contagion, and prevent it from extending into other tissues.

707 Twelfth St., N. W.

DISCUSSION.

Tuberculosis of Skin Prone to Recur.

DR. W. P. CARR said if the tubercular ulcer is of long standing, it is hard to heal even if it is excised. It is hard to diagnose lupus, which will return if excised, from tubercular ulcer. It is well to remove extensively, and use some strong antiseptic at the time, so as to prevent infection of the surrounding tissues at the time of the operation. He had operated recently, following the advice of Lanphear, who recommended excision and then rubbing the part well with crystals of permanganate of potash. Even with these precautions, the rubbing with the permanganate before and after the operation, the disease had returned several times in other places. At present his case operated upon after this manner is doing well.

Antiseptics and Caustics did not Prevent Spreading.

DR. McKIMMIE said when he first saw the case of Dr. Atkinson, the ulcer was very small and covered with a little scab. Notwithstanding all lines of local dressing with antiseptics and caustics, the ulcer continued to spread, and was finally excised as stated in the paper.

Electricity Sometimes Better than Surgery for Tubercular Testicle.

DR. BISHOP said: It has been remarked by one or two of the gentlemen, that to cut out the diseased structure, in tubercular ulcerations, was the rational treatment. That, no doubt, is correct, in the vast majority of the cases; but there are cases, where such a procedure is very undesirable, to say the least. A case in point, is one that has already been published, but under the present circumstances will bear repeating. An artist, about twenty-five years of age, was directed to my care by Dr. James Kerr with the following history:

A few years ago he fell and, in some way, received the full force of the blow upon his testicles. Swelling, induration, together with ulceration, followed. This condition was treated by an eminent surgeon in New York, who, upon examination, found the ulceration to be tubercular, and after all the local remedies failed, the testicle was removed. Soon after coming to Washington, the other testicle be-

came indurated and broke down, with tubercular ulceration. He was anæmic, with a decided hectic flush, very weak and dizzy. The testicle was treated by galvanism. The ulceration was treated by the copper electrode, with the X-pole of the galvanic battery, producing, by chemic action, the oxychloride of copper, and driving it into the tissues. In a few months, the ulceration was entirely healed, the induration was gone, and the man had gained twenty pounds in weight. In addition to the local treatment, he spent each day from ten to twenty minutes in the ozone cage, inhaling the ozone.

He returned to New York, the treatment was neglected, and after dissipation, his testicle again broke down, he fell into the hands of the surgeon who removed the first testicle, and the remaining one went in the same way. He had not the slightest doubt, that had this man remained under treatment by electricity, he would to-day have his testicle; therefore, he did not believe that a surgical operation is always the best treatment for a tubercular ulcer.

Tuberculin Recommended in Such Cases.

DR. BOVEE believed tuberculin should have been tried, as some good results have been reported.

Tuberculin is not for Acute Cases—Excision Better—Electricity Serviceable.

DR. ATKINSON, in closing, said tuberculin had been used in lupus with good results; but in acute tuberculous ulcer he does not believe tuberculin will be of any benefit, nor be followed by good result. Believes excision the proper course of treatment, and that electricity was of much service, but did not believe it cured the cases. By a change of climate, cases of long standing were improved, but not cured. In operating upon these cases, an early operation, extending into sound, healthy tissue, was requisite to success.

A Doctor's Epileptic Son.

"My son is doing splendid, has had but one paroxysm in five months and I think that was caused by reducing the dose of Neurosine. I am so hopeful of a permanent cure that I am determined to persevere in this treatment. I am having inquiries from physicians as to the merits of "Neurosine," and recommend it to those who have cases of epilepsy."

G. W. GAINES, M. D.

April 9th, 1898.

Hickory Flat, Ky.

A RATIONAL METHOD OF RELIEVING ASPHYXIA IN THE NEWLY-BORN INFANT.*

By S. STRINGER, M. D., Brooksville, Florida.

I desire to call attention to a method of relieving asphyxiated newly-born infants, which I do not think has been presented to notice heretofore. I do not claim for this method, as is done by many others, that it is novel or unique, etc.; but it is based entirely upon chemical and philosophic principles, and, like many other facts in our profession, is the result of accidental discovery.

We know that in the asphyxiated infant, unless the blood becomes oxygenated very soon, the child must die; we know that from several causes the sensorium has become so deadened or blunted as not to respond to the irritation of the atmospheric air, the application of cold water, or other methods of inducing respiration; yet fetal life still remains and would continue were it not that the placenta has become detached, and thereby respiration, or oxygenation of the blood through the medium of maternal circulation, is cut off.

Now, if we could maintain fetal life by any method until the sensorium can sufficiently recover to respond to the nervous excitants of respiration, we would, in many instances, save the life of the infant. How this is to be done is the object of this short essay, as well as to relate the circumstances which led to the discovery thereof.

A few years ago I was called to a multipara in labor, and was told she was only in her fourth or fifth month of pregnancy. In a few hours she was delivered of a fetus which I took to be about the age indicated. The fetus, membranes, and placenta were all delivered by the same effort. Nothing unusual having occurred, the fetus and envelopes were laid aside until my departure, when I had it placed in some cloths and rolled up to carry with me for the purpose of saving it as a specimen; but, it being late in the night, I deposited it until morning, when I proceeded to examine it, and, to my astonishment, found the fetal circulation still going on, with pulse at wrist very perceptible. This was several hours after birth. Here was a case of fetal circulation, to my mind, carried on by the aeration of the blood through the medium of the placenta exposed to the atmospheric air.

In contemplating this case it occurred to me

* Read before the Florida Medical Association, April 27, 1897, at Jacksonville.

that this information might be utilized in cases of asphyxia in newly-born infants, and I resolved to try the first case that came under my care.

Some time elapsed before a case offered to put in practice what I thought to be an important discovery. At last a case presented itself. A large and well developed child, of white parentage, and in which the head had been moulded into cylindrical form by a narrow pelvis. The child could not be induced, by the usual method of cold application and rolling, to make any effort at respiration. The circulation was still going on in the funis with some vigor, but the deepening of the dark hue of the surface plainly indicated that, unless oxygenation of the blood could take place, death would soon follow.

Already the pulsation in the cord had become feeble, and was becoming more so rapidly, when I delivered the placenta, rapidly cleansed it of clots, and exposed the maternal surface to the atmospheric air. In a very short time, the pulsation was perceptibly increasing in force; the livid and death-like hue was being displaced by one of life and health, when it required but a few moments for the restoration of sensibility, when the process of respiration commenced.

I feel sure that, had the placenta remained in the os uteri or vagina, excluded as it was from atmospheric air, death from asphyxia would certainly have occurred to the child.

Several subsequent cases have proven, to my mind, that this simple and rational plan of restoration is preferable to all others; and I will ask, Why not? Does not the blood become rapidly oxygenated when exposed to the air even in an open vessel? Have you not seen venous blood reddened in a few moments after exposure to atmospheric air? Then why not, when exposed to the air, by osmosis, through the irregular surface of the placenta, where aeration had been going on from the time of the earliest distinct organization of the embryo.

In nearly all cases of asphyxia the labor has been tedious, owing to narrow passage and time required to mould the head to the same, by the powerful expulsive effort which detaches the placenta and throws it into the os, or entirely into the vagina, as the child emerges from the third stage of labor. Therefore you will find no difficulty in the immediate removal of the placenta, should you have a case of asphyxia.

After its removal from the vagina, it will be much easier to lift the cord from the neck, and

examine for any interference with free circulation in the cord, and correct the same. The placenta should be spread out with maternal surface cleansed of all clots and membrane, so that free access of air can be had. If it becomes necessary, on account of numerous clots, to use water to cleanse the maternal surface, it is advisable to have it warm, as it is remarkable how quickly the use of cold water will chill the child; yet it is but natural to expect such result when you apply cold to so large surface of the capillary circulation as is maintained in the maternal surface of the placenta.

So long as the circulation keeps on through the cord, you need not fear for the life of the child, for it is a continuance of foetal life *after birth*, and will keep the child alive for an indefinite time.

As soon as respiration occurs, which, in some instances, has been delayed as long as twenty-five minutes in some of my cases, the circulation is diverted from the placenta to the lungs, and pulsation in the cord ceases in a few seconds, when the child is to be separated from the placenta, as in ordinary cases.

I commend this method to the profession, and ask that it be tried where more cases present themselves than are met by provincial practitioners, when, I am convinced, it will be universally adopted.

I cannot omit, on this occasion, referring to the great advantages which, it seems to me, must result from the delivery of the placenta in cases of placenta prævia—advantages not only to the mother, but to offspring. As the consideration of this subject would require considerable time, I will only give a few extracts from the literature on the forms of dystocia: Dr. Simpson has collated one hundred and twenty cases in which the placenta was delivered anterior to birth of child. Of this number, thirty-one of the children were born alive, two were putrid, and eighty-seven still-born. I have no doubt but that a large per cent. of the eighty-seven still-born died of asphyxia, in consequence of the retention of the placenta by the uterus for some time after its detachment. Had it been promptly delivered and exposed to atmospheric air, many of these lives would have been saved. But as these thoughts are not pertinent to this paper, I will leave the experiences presented for the thoughtful consideration of the profession.

IS THE PRACTICE OF MEDICINE LOSING CAST AS A SCIENCE AND PROFESSION IN THE EYES OF THE PUBLIC.*

By F. M. DAVIS, M. D., Houston, Texas.

This question, if answered in the affirmative, will elicit reasons why; and if denied, will demand argument. In formulating the above caption, it is foreign to our purpose to pose before a public with an aggrevance for the loss of any emolument enjoyed by any other scientific organization, because if we are on the scale of descent, our retrograding is in line with, and we are accompanied by, every other literary, legal, and religious organization in the land.

It must be remembered that medicine is of the highest birth, if its principles are human at all, of any issue that has ever emerged from the brain and soul of man. This assertion, of course, requires some retrospection, not only to confirm the fact, but to show that it has been so recognized and rewarded by every people in every country, in every age, since the world began.

Tradition leads us back to nearly one thousand years before Christ, and introduces us to Æsculapius as the first man to practice medicine with any degree of system and judgment, and without claiming supercilious instincts or Divine influence. As he advanced in experience, so great was his success that thousands vied with each other to do homage at the shrine of his healing art, and from that day on down the classic pathway of human events for seventeen descendencies, medicine became the emerald in the cluster of every organization of arts—literary, scientific, professional and social—that was known to man.

Then came Hippocrates, the wizard and genii of mediæval Greece, whose extensive learning, sagacious instincts, and seeming inspiration gave another impetus such as astonished all the wise men of every country. He was said to have been the first medicine man to plant the art in scientific grounds, and its development was so extensive and its fame spread so rapidly that it was likened to the tree which the Chaldean monarch saw; its roots extended to the remotest shores of earth, while its top reached to heaven, and its voice, though feeble, was heard in distant climes, and millions came flocking to rest in its shade and enjoy the blessings which the practice of its principles conferred, to drink of its elixirs and

to gather the white winged seeds of happiness shed from its branches.

Greece thought for over five hundred years that this great system was all that was required for the "healing of the nations." But nothing was ever levied on the sheaves brought in to this great and good man, thanks to the gratitude of Greek intelligence. Medicine had risen above the trades and was enjoying even the rights of priesthood.

Medicine has been venerated by every people in every clime and in every age but this. Ancient Gaul was as completely in obeisance to the wishes of her medicine men as she was to the Pope. The lords of Edom and the royal pontiffs of Thebes were said to have held open house to their physicians and families of same, believing their society to be the acme of eclat. The root and herb men of old Peru ascended the rank and rights of the courts and commanded the crowns and plumes of the Incas by virtue of a powder which they had dried and pulverized during a malarial season, the name of which is not given, and yet no tribute was laid on their merchandise or on their administrations.

The Priests of the Pyramids of Old Mexico were more venerated and worshipped for seeming power to heal than for their power of absolute and forgiving of sins. But, alas! a new era is upon us now. Medicine, for the first time in the history of the world, is threatened with being relegated to the rear by the rolling, surging, foaming waves of commerce. The heraldry of the gods and goddesses of merchandise Hermes, without Hestia, is here. This element of speculation is striding forth like a great Colossus, trampling down, overshadowing and crushing into smithereens, every feature of the body social, scientific, literary, professional, legal and religious on the face of the civilized earth. The must of philosophy and the sterility of psycho-metaphysics have fossilized, and are being rolled with the shells by this mighty current of finance. And I am sorry to have to press the button leading to the alarm bell, but I imagine I feel the gravel under our feet giving way, and if this mighty tide is not stayed in some way ere long, we will be submerged and will go plunging and thundering along down this current to oblivion, but like fish, we are captivated by its glare and glitter. Three thousand years' vigilant investigation and closely written parchment on the subject fail to point out to us the philosopher's stone. We can see it now any day in the portfolio of our successful tradesmen and speculators, and between you and me I have heard

*Read before the Texas State Medical Association, at Houston, Texas, April 27, 1898.

it said that some of them spell "cow" with a "k."

The danger of this great evolution and evil to our morals, Madam Lucre, takes advantage and regales herself in purple and fine linen, and, with a seductive twinkle and confidential air, she is invading every threshold and demoralizing every sanctuary. Men are actually tumbling over each other for the purpose of prostrating themselves at her comely feet; she reaches out her tender, shapely hands, and with her lily white arms is drawing to her cheery lips and voluptuous bosom, everybody merital, everybody unmerital, everybody social, everybody legal, everybody illegal, everybody politic, everybody professional, but the medicine man, and he would but he has been elbowed a little to one side and is standing sorter on one foot looking wistfully, and longing for just one buss. But she isn't looking this way, our clothes are a little seedy and we haven't any portfolio with a philosopher's stone in it, although some of us may not spell "cow" with a "k."

I was about to forget to tell you what I saw a few days ago. Dear old gray-headed Brother S., brother, not in Israel but in medicine and in misery, thought no one was looking at him, and leaning heavily on his cane, tipped his hat, and with a smile, actually wunked at the madam as she flaunted by.

The trouble with some of us is that we too are about to lose our heads; we have gotten tired of medicine and have gone to gazing at the moon. We are losing our appetites, growing pale, and becoming secluded with a disposition to search out verses in poetry. And, in fact, I heard a doctor, a few days ago, humming at a love song, and for melody, symmetry, and rhythm, deliver me. Three doctors and one Hong-Kong goose would make up the quartet. We acknowledge there is something very catchy about the old girl, but we venture the assertion that if one of us had her that in less than six months we would be riding around on an old mule with a rope bridle hunting for a divorce. We are not built for that kind of a creature, and it is a mistake to want her. She is pulling us away from each other. Two boys were returning from a social one evening where they had just left some vivacious girls. One said, "Bill, I would as soon be in company with a steer as with you." "Well, I know just how you feel," said Tom.

Now, please don't grow nervous. You see the State of Texas has placed us in line with the trades; therefore, we can afford to lay off our reserve as our occupation tax is paid. But

before that girl came along we were studious, we were social. We would visit each other and talk together; consult with each other, and sometimes we would practice together, but now you can hardly find a partnership with us in all christendom. We have become by each other too much like Bill and Tom.

Old Jergin once said after his wife had whipped him, that: "In union there is trouble and sometimes danger, but dang such strength as it has brought me!" But I still believe in the long pull, the hard pull, and that we all should pull together. If we wrangle and scrap with each other, it will make our imbroglia with the wolf much more serious. Jealousy is another bane to our brotherhood. If one of us be called to trim an inverted nail on the toe of Madam Lucre, the rest are ready to go into a pout with him for the remainder of the week. Jealousy, I say, is the frost, the snow, and the sleet that blasts and withers every blossom, bud and sprig in the garden of medical enterprise and progress. But the spots on the leopard are about as easy to efface as the habits of an old physician. But we should bathe our eyes in the suds of sad experience, that when cleared of the film and scales we can see our great mistakes in doing practice for everybody without regard to fee or reward. We, I say, should sniff the vapor of stronger water, that we may wake up to a sense of duty we owe to our families as well as to ourselves, to demand something in return for our services.

When something can be gotten for nothing it is never appreciated. Cheapness of service has had much to do with the depreciated condition of our profession. Many, very many people believe to-day, that the laws of our country when enforced, compel a doctor to go to any one that may call him, and in two more years I shall not be surprised if the Legislature take the same view; although our occupation tax may go a long way toward defraying their board and beer bills at Austin. But as we have been scheduled as one of the trades, the time has come for us to draw on our backbone, our spinal plexus, and our medulla oblongata for nerve, strength and judgment to say "no" when a man applies a second time for our services and brings nothing but an apology in payment for the first. Let us present our bills as promptly as the merchants and the tradesmen do. Let us cut off our services as quickly as the grocer and butcher will do. We know that our work in charity has not been appreciated by the public, and while we shall never begrudge what we have done for the actually needy and deserving, yet we must convince the

people that we are not public property. "Advice given unsought stinks in the nostrils," so when practice is lavished out on those that are not needy it becomes cheap, unappreciated and contemptible.

NEW OPERATIVE TREATMENT FOR HEMORRHOIDS, WITH REPORT OF A CASE.*

By GEORGE K. SIMS, M. D.,

Chief of Clinic, Surgical Department, University College of Medicine, Richmond, Va.

Having made a careful study of the various operations that have been adopted for the radical cure of hemorrhoids, I find them all subject to various objections, viz., they leave a stump that must slough off, or an open wound that must heal by granulation. This, in a location like the rectum, which cannot possibly be kept aseptic for that length of time, must naturally be a slow process, and, in addition to this, there is the possibility of serious systemic poisoning should these open wounds become infected with pathogenic microbes. Again, wounds that heal under suppuration leave a great amount of cicatricial tissue to contract and distort the organs.

The operation which I propose, if properly done, will to a great extent overcome these objections. It takes more time and care and is more difficult to perform, but the advantages gained by the patient more than compensate for this additional work. Of course, it may not be applicable to every case, but with suitable modifications it may be made applicable to the majority of cases of both internal and external piles, as well as to polypi and other benign neoplasms of the rectum and anus.

Operation.—The patient should have a gentle mercurial purgative on the two evenings previous to the day of operation and a saline each morning before breakfast. This will clean out the bowels and open up the portal circulation, so that we can give the rectum a long rest afterwards. The circum anal region should be shaved and scrubbed clean and the rectum washed out with a large enema of warm soap-suds or carbolized water. A warm bath is given and clean linen put on. The anæsthetic is now administered, after which he is placed in either the lithotomy or the Sims' position. Then introduce a speculum (Cook's and Mathews are the best) and divulse the sphincters as widely as the instrument will distend them.

Then, with the thumbs, still further stretch until completely paralyzed. The piles will now present themselves, but not in their entirety; they should be everted as much as possible and the rectum and circum anal region well irrigated with a 1 to 2000 mercuric chloride solution. The tumors, one by one, are now caught with four-pronged forceps, pulled out and held by the assistant; then, with a sharp scalpel, the mucous membrane is cut through, around the base of the pile and a silk ligature tied tightly (in the groove made by the incision), including only the blood-vessels and connective tissue. The pile is then cut off close to the ligature, leaving only enough to hold it, and the cut edges of the mucosa are brought together over the stump with continued sutures of catgut. If the tumor is large, with a curved needle pass a double suture through its base and ligate it in two portions, then the mucous membrane is sutured as above.

If there are external piles present, also, the same method may be used to remove them, if large and vascular, or if due to a thrombus; but if they are small or are much indurated they may be simply cut off close to the skin, any bleeding points caught with forceps and ligated, the cut edges brought into close apposition, with interrupted sutures of silk. The field of operation is again irrigated with a hot bichloride of mercury solution, the parts dusted with iodoform or aristol, the mucosa pushed in well and a small piece of iodoform gauze inserted, leaving the end protruding from the anus. A pad of gauze is placed over the anus, and over this a pad of absorbent cotton is bound firmly with a "T" bandage. A hypodermic injection of morphia, one-quarter grain, with atropia, 1-150 grain, is given, and patient put to bed.

The bowels should not be moved for three or four days, by which time the wounds should be nearly healed; they should then be moved by salines and enemata. The advantages claimed for the operation are, that by leaving only closed wounds, made under antiseptic precautions, we lessen the risk of suppuration, and perhaps more serious infection; that they heal in a much shorter time, and with less pain and suffering; there is less danger of hemorrhage and of distortion, and perhaps neuralgia, of the rectum, from contraction of the cicatricial tissue.

In regard to external piles, I wish to emphasize the advice given by Dr. Mathews in his admirable work on the rectum: "Remove all of the tumor, cutting it off close to the skin,"

* Read before the Richmond Academy of Medicine and Surgery, April 26, 1898.

instead of merely snipping off a small portion of it, as is advised by most authors. If small ones are left, they are apt to become inflamed, and they, as well as the stumps left, tend to get much larger, often necessitating another operation to remove them.

The following case, which was a very severe and complicated one, will illustrate the success of the operation, although it was done under very unfavorable circumstances and surroundings:

W. C., aged thirty, had been suffering very much for some months with pains in the region of the anus and surrounding parts, especially during and after stools. They had got so severe that he had to take his bed, and could get no relief from the many remedies and treatment that he had received. Upon examination, I found a large and inflamed anal fissure, and about two-thirds of the circumference of the anus was encircled by very large, indurated and ulcerated hemorrhoids. Owing to these conditions, I did not examine the interior of the rectum, but advised an operation as the only means of getting relieved. To this he consented, but, being opposed to the hospital, as many are, I decided to operate at his house. After being prepared as above, chloroform was administered by Dr. Charles M. Edwards, he being my only assistant, except a man to hold his limbs out of the way. He was placed in the Sims' position, the sphincters thoroughly paralyzed by stretching, the mucous membrane everted, and the parts washed clean with a warm antiseptic solution. This revealed the presence of two medium-sized internal piles, which were caught with forceps and pulled out. The mucosa was cut through around the base of the pedicle, and a silk ligature tied tightly in the groove made by this incision. The tumor was then cut off close to the ligature, and the cut edges of the mucous membrane were brought into close apposition with a continuous suture of catgut, covering over the stump. The external piles being of the fibrous, indurated variety, were simply trimmed off close to the skin without being clamped; several small arteries were ligated and the cut edges brought together with interrupted sutures of silk. The parts were then sponged off with a hot mercuric chloride solution, and a piece of iodoform gauze inserted into the anus with the end protruding. Another piece of gauze was then placed over the anus, covered by a pad of absorbent gauze, and the patient put to bed. A hypodermic of morphine and atropine was given to relieve the pain. This was not repeated. The bowels were moved on

the fourth day by salines and enemata. He was out of bed in less than a week, and on the tenth day came to my office and I removed the stitches. All the wounds were healed nicely, and he was feeling very well. He returned to his work several days later, being completely cured, and has had no return of the trouble since.

Proceedings of Societies, etc.

TENNESSEE STATE MEDICAL SOCIETY.

The Sixty-fifth Annual Session met in Jackson, Tenn., April 12-14, 1898.

Dr. J. A. Preston, Humbolt, read the first paper on

Hygiene and Medical Supervision of Pregnancy.

The husband should early acquaint his physician that his wife is *eniente* and place her under his supervision. Under normal conditions there might be little or nothing for the physician to do but to give instructions regarding general hygienic regulations. But under our modern social regime—so full of various dissipations—he will sometimes have his hands full in getting instructions carried out.

One of the greatest difficulties is in the *matter of dress*. Many women are loth to give up their social relations. Some will lace themselves in an attempt to hide their condition. Again, some pregnant women immerse themselves from all outdoor exercise and fresh air, and thus become victims of lassitude, rendering themselves unfit for the ordeal toward which they are tending. The prospective mother should have loose but comfortable fitting garments of medium weight, suspended mostly or entirely from the shoulders, without corset unless it be one especially provided for the pregnant condition. Many complications arise during pregnancy and at the time of delivery because of improper dress, which may also have its influence in faulty development of the fetus.

We should have a happy, cheerful woman during pregnancy to expect a happy uncomplicated delivery of a healthy baby, and a safe passage through the puerperal state. *Maternal impressions* affect the exterior of the fetus as well as its mental organization. The wise physician should aim to direct the mind of his patient as well as her physical welfare.

Almost any disease may supervene in the course of gestation, thus engendering a grave compli-

cation; or pregnancy may occur, and often does, in spite of some chronic or inherited disease. Pregnancy may be the exciting cause which arouses some latent disease or predisposition to disease into activity. Besides there are a number of disturbances that might be termed *physiological phenomena*, such as the vomiting of pregnancy, neuralgia of the teeth independent of caries, cough and dyspnoea. One of the most fatal diseases in the pregnant state is *pneumonia*, which can almost always be avoided by proper hygienic care.

Diseases of the urinary system call for intervention, perhaps oftener than any other class of troubles. Irritability of the bladder and dysuria occur often in first pregnancies, while incontinence is met with more frequently in later pregnancies. Retention of urine in pregnancy is sometimes a very grave accident. It may be attributed to reflex contraction of the neck of the bladder, when met with early in pregnancy, but it is most frequently met with as a symptom of retroversion at about the fourth month, or later, as a result of cystocele. But the renal function requires most care in the pregnant woman.

Four forms of renal disease may be met with in pregnant women, viz: acute and chronic parenchymatous, and interstitial nephritis, and a special form peculiar to pregnancy, *pregnancy kidney* or *pregnancy nephritis*. The last begins and ends with the pregnant state. The symptoms are edema and albuminuria. The course is usually favorable, but *eclampsia* may supervene with sudden increase of albumin and dropsy with lessened excretion of urine. Acute nephritis may cause *eclampsia*, but it rarely occurs in the chronic form. For grave albuminuria, the absolute milk diet is the best treatment.

External palpation of the abdomen after foetal viability may give some information regarding the position of the fetus or multiple pregnancy. Every woman in her first pregnancy, or who has had special difficulty in a previous parturition, should be examined by external and internal pelvimetry about the 7th or 8th month. If labor promises to be long, painful or difficult from obstruction of any kind, the obstetrician ought to elect at the proper time whether to choose induction of premature labor, to depend upon the forceps, or to resort to podalic version, symphyseotomy or a Cæsarean section and thus avoid craniotomy. The essayist had attended women who had used preparations advertised to make child-bearing easier, but had not seen any benefit.

Two Cases Treated by Sodium Infusion.

Dr. W. F. Rochelle, Jackson, Tenn., reported them.

In the first case there was a temperature of 104-106°, with heart failure, loss of consciousness and other symptoms of impending death. A quart of saline infusion was injected into the veins. The pulse soon became full and quiet, dropping from 190 to 136 within half an hour. In a few hours consciousness returned and the patient recovered in the course of two weeks.

The second patient had suffered about two years with diabetes. Symptoms of diabetic coma supervened. Saline solution was injected into the cellular tissue, with apparently no benefit. The same solution was then introduced into the veins. The pulse, which had been weak and compressible, became full and strong. The coma disappeared. This continued three or four hours, when the injection was repeated with the same good result. Injections were continued at intervals of four to six hours for about two days, when the effect gradually failed, the patient grew weaker and died.

Pathology and Differential Diagnosis of Intestinal Obstruction was the title of a paper read by Dr. Richard Douglas, Nashville, Tenn.

Fever, Just Fever.

Dr. D. J. Roberts, Nashville, read a description of the peculiar continued fever, found especially in the South, which is neither malaria nor typhoid fever, although resembling somewhat these diseases.

Plea for Conservative Management of Uterine Inflammations and Displacements.

Dr. I. A. McSwain, Paris, Tenn., in a paper, said that tubercular and syphilitic infections, rheumatic and gouty conditions, general debility and anæmia, may be predisposing causes of diseases and displacements of the uterus. The displaced womb may be only a part of a vast hernia of the pelvic viscera making a descent in various degrees through the pelvic outlet. Dilatation of the stomach, hepatic and splenic enlargements, the growth of tumors, or constipation, may contribute to these troubles. The demands of modern society, dress, lacing, the uncomfortable load of skirts fastened around the waist, are a fruitful source of uterine disorders. But by far the greater number of these cases owe their origin to negligence or ignorance during parturition, or to exposure and bad treatment succeeding labors and abortions, non-observance by the attendant of the rules of antiseptic midwifery, failure to recognize and immediately repair injuries of the birth canal

or perineum, and gonorrhœa. Sub-involution is more often an effect than a cause. Frequently the puerperal woman, too soon after delivery, assumes her household duties, thus exposing her womb to many sources of infection. A flexed or retroverted womb is in no position for drainage, and by retention of secretions provokes or perpetuates an inflammatory process.

Examination should ascertain the presence or absence of inflammatory disorders, the condition of the perineum, the tonicity of the vaginal walls, whether there has previously existed pelvic inflammation, and if so, the nature and extent of the exudates or adhesions, the presence or absence of pregnancy, the size of the uterus, the length of the cervix, the condition of the ovaries, tubes and ligaments, whether there be any displacement of the organ, and if so, the direction and extent, also whether the flexion, prolapse or version be due in whole or in part to the presence of tumors or enlargement of any other abdominal organ or is accompanied with prolapse or displacement of the bladder, vagina, rectum or kidney; also whether there be fistulous openings, cervical rents or abrasions, ulcers, excoriations or cancer.

In treating malpositions and inflammatory processes of the uterus we should reduce existing inflammation and overcome if possible the resulting evils and restore the womb to its normal position in the pelvic cavity.

The first essential is *rest*. The patient should be put to bed and kept quiet in both body and mind. This is especially required in all acute cases.

The second essential is *cleanliness*, which implies antiseptic precautions on the part of the physician and nurse, bed and surroundings. The disease must then be treated much as you would any sore—that is, cleanse it. If the os is not sufficiently patulous, it should be dilated with a steel dilator and, under an anæsthetic, every particle of foreign substance should be removed with a curette. Then thoroughly irrigate the uterine cavity with sterile water containing a proper percentage of one of the non-toxic antiseptics. Bichloride of mercury or carbolic acid, if used at all, should be greatly diluted. Lysol, creolin, permanganate of potash, hydrogen dioxide in proper solutions, or the compound tincture of iodine, one ounce to the quart of water, are all admirable preparations for this purpose and are free from danger. Not every case will require the curette, but there are few if any cases of endometritis that do not require thorough irrigation. Having cleansed the organ, local applications are in

order. Perhaps one of the best combinations is equal parts of compound tincture of iodine, glycerine and witch hazel, or carbolic acid and tincture of iodine. Among the newer preparations, euprophen and aristol, suspended in alboline, have a soothing and antiseptic effect. There may be cases in which fuming nitric acid or chloride of zinc is needed, but such cases are few and milder preparations should have preference.

The third important step is *drainage*, which may be accomplished by inserting a drainage tube or a strip of gauze. An important step in securing drainage is to straighten the canal of the uterus. To this end all malpositions should be corrected. This is best accomplished by the use of tampons of prepared wool, which should be saturated with a solution of boracic acid in glycerine and ichthyol and inserted under the fundus, after having raised it from its abnormal position. The woman should then be placed in bed and not disturbed for 36 or 48 hours, when the wool should be removed, the vagina and uterus again irrigated and the packing replaced with fresh material. Persistence in this course will overcome the ordinary acute cases.

The more chronic cases may require, in addition, massage, electricity, a repetition of curettage, and various constitutional measures. *In chronic cases with plastic exudation, or where the uterus is large and heavy*, depleting measures are indicated. Hot vaginal douches must be used. Tampons of wool saturated with boracic acid and glycerin should be packed in the vagina and allowed to remain twenty-four hours, followed by hot vaginal irrigations. Renewal of the packing, day after day, will hasten resolution of exudates, reduce the size of the womb, and materially assist in restoring the parts to a normal condition. One of the best laxatives to secure daily evacuation of the bowels in cases of constipation, is equal parts of sulphur, bitartrate of potash, and sulphate of magnesia.

After having reduced inflammation and its sequelæ, and having secured absorption of exudates and the loosening up of morbid adhesions, *the uterus may be placed in its normal position and retained by means of a well-fitting pessary*. This does not always cure the misplacement; neither does ventro-fixation nor Alexander's operation. In cases where there are rents in the cervix or perineum, repair is indispensable.

Ulcer of the Stomach.

Dr. J. T. Altman, Nashville, said that statistics show at least 5 per cent. of all autopsies

reveal either an open gastric ulcer or the cicatrix of one. The etiology of ulcer of the stomach is not very clear, but there are three factors which enter into its production, viz: 1. Local disturbance in the walls of the stomach, whether this be simply nutritional or due to trauma, an embolus, or a thrombus; 2. Hyperacid gastric juice; and 3. Diminished alkalinity of the plasma of the blood. Age, sex, locality, occupation, corrosive poisons, and alcohol, are predisposing causes.

The main diagnostic symptoms are pain, vomiting, tenderness on pressure, and hæmatemesis. It is estimated that about 6 per cent. of all cases result in perforation. This is more frequent and fatal when the ulcer is in the anterior wall of the stomach.

The differential diagnosis lies between ulcer and chronic gastritis, gastralgia, hepatic colic and cancer of the stomach.

When ulcer is suspected, put the patient to bed, keep him absolutely quiet, and withhold all food from the stomach. Allow no food in the stomach for several days. In the meantime, resort to rectal alimentation. Put only albuminous food, that has been previously converted into peptones, in the stomach at first, so that absorption will take place easily and rapidly, and render the physiological peristalsis and secretion of acid unnecessary. Milk that has been previously peptonized is the ideal food at first. But as this has a bitter taste, it soon becomes repulsive, when we may give fresh milk with lime-water or some other alkali. By the end of the second week we may add egg albumen in the shape of raw eggs. In the third week, soft boiled eggs with well-toasted bread soaked in milk. Thirst is relieved by crushed ice. By the fourth week, if there is no pain or vomiting, raw beefsteak, finely scraped, and raw oysters without vinegar, are permitted. From this time a gradual return to a light mixed diet is allowed, but care must be taken for a long time not to eat coarse articles. Next to rest and diet in importance comes lavage. This is of benefit to relieve the associated gastritis, but must be used with caution, taking care never to over-distend the stomach, for by so doing we separate the edges of the ulcer, the granulated tissue is broken down, and cicatrization is prevented. Also, there is danger of inducing hemorrhage or perforation, unless care is taken to introduce a limited amount, and see that it is all carried out. We scarcely ever see a case in which opium is not indicated at some time, either to control pain or some complication. The diminished alkalinity of the blood, and

the excessive acid in the stomach, call for the administration of alkalies. Bicarbonate of soda, in twenty grain doses before taking food or when in pain, acts admirably. Subnitrate of bismuth, in half drachm doses, also serves a good purpose. Carlsbad salt fulfills the same indications, and, at the same time, keeps the bowels open.

When hemorrhage occurs, the patient should be placed in the recumbent position, with the head low. Give morphia and atropia hypodermically to quiet peristalsis—ergotin to contract the arterioles. Apply an ice bag to the epigastrium. In severe cases, apply a ligature around the leg and arm. If collapse is marked, inject saline solution into the veins. Perforation demands immediate operation.

As soon as cicatrization is fairly established, the existing anæmia should be combatted by the milder preparations of iron. Three months are usually required for complete cicatrization. Even then relapses may occur.

"The Relation of Public Morals to Public Health," was the subject of the President's Address, by Dr. T. K. Powell, of Daneyville.

A paper was read on "Puerperal Mastitis," by Dr. C. N. Sebastian, of Martin.

"Observations in Electro-Therapy," was the title of a paper by Dr. G. P. Edwards, of Nashville.

Transfusion.

Dr. S. R. Miller, Knoxville, Tenn., believed intravenous transfusion the quickest and most accurate. It requires more skill than the other methods, and more attention to the details of asepsis than subcutaneous injection or enema, but is to be preferred where there is immediate demand and the necessary preparation is made. It combats shock best. It is perhaps most useful in very bloody operations where otherwise the necessary loss of blood would prove fatal before the operation could be completed. The subcutaneous method is slower, and requires less preparation and skill than the intravenous method. It does not depend so largely upon asepsis, and should be employed where the intravenous method is not practicable. The introduction of fluid into the peritoneal cavity should be employed only in operations involving that cavity. It is probable that this may prevent, to a small degree, adhesion of the raw surfaces. The essayist prefers rectal injections for the purpose of avoiding rather than to combat shock. It serves best where there is least shock. The general surgeon should not allow himself to become "wedded" to any particular method, but should in each instance

employ the one best suited to the individual case and its environments.

Illustrative Specimens of Perforative Appendicitis, Carcinoma Uteri, Gall Stones and Fibroid Tumors of the Uterus, were presented by Dr. W. D. Haggard, Jr., Nashville.

"*Gun Shot Wounds of the Abdomen*" was a well rounded paper by Dr. J. B. Murfree, of Murfreesboro, who advised operation (laparotomy) and repair of the injury done.

ELECTION OF OFFICERS.

President, Dr. T. H. Marrable, Clarksville.

Vice President for Middle Tennessee, Dr. W. C. Bilbro, Murfreesboro.

Vice President for West Tennessee, Dr. V. A. Biggs, Martin.

Vice President for East Tennessee, Dr. T. W. Gallion, Dandridge.

Secretary, Dr. W. D. Haggard, Jr., Nashville.

Treasurer, Dr. D. E. Nelson, Chattanooga.

Next Place of Meeting, Nashville.

A paper on "*Castration for Reflex Neuroses following Mumps, with Report of Case*," was read by Dr. J. S. Nowlin, Shelbyville.

"*Some of the Causes of Unsuccessful Treatment as ordinarily given for Chronic Suppurative Otitis Media*," was the title of a paper by Dr. L. B. Grady, Nashville.

Dr. John L. Jelks, of Memphis, made a *Report of Surgical Cases*.

Prevention and Treatment of Injuries to the Parturient Canal.

Dr. J. T. Reddick, an invited guest from Paducah, Ky., said his paper dealt only with lacerations of the cervix and of the pelvic floor. Many injuries to the parturient canal may be averted by proper attention before and during labor. The urinary organs and bowels should be placed in a healthy condition before labor. Everything done to put the pregnant woman in a normal condition will, in a measure, prevent these lacerations. Sedentary and indolent habits, pelvic and perineal irritations, or anything which may impair the nutrition of the pelvic floor, renders it irritable, soft and predisposed to rent. Fashionable women who live indoors, lace tight and wear improper dress, are enervated and predisposed to lacerations of the pelvic canal. On the other hand, precipitate labors in strong muscular women with violent uterine contractions, especially if there is a medium sized child and a rigid perineum, may rupture the pelvic floor. This may be avoided by complete anesthesia with chloroform. Lacerations may be frequently avoided by supporting the perineum during the second stage of labor, especially if there be a vertex

presentation. An overloaded rectum and distended bladder, improper traction in forceps deliveries and the use of ergot may produce lacerations of the pelvic floor. Hence the obstetrician, by personal attention to many little things before and during labor, may prevent injuries to the parturient canal. But lacerations do occur with the best physicians and surgeons, and extremely unfortunate is she who has received such lacerations and her attendant is unable or too negligent to detect them and give them prompt and competent surgical attention. Lacerations may be often detected by the educated finger, but to be doubly sure that there are no injuries, an ocular examination should be made at once. In lacerations of the cervix, immediate operation is either one of election or strict necessity. Immediate operation becomes a necessity if the laceration involves the circular artery and the hemorrhage is alarming. Hemorrhage could be controlled by tampons, but the danger from sepsis would be greater than from an operation. Many cases of laceration of the cervix heal spontaneously, especially if the course of puerperium is aseptic; for that reason essayist deems it advisable to postpone the operation when possible.

The most important lesions to the parturient canal, perhaps, are injuries to the pelvic floor. The long train of symptoms which may follow a lacerated perineum—namely, hemorrhage and collapse, infection through an open wound, puerperal septicæmia, a tedious and incomplete convalescence, sub-involution, endometritis, uterine displacements of different kinds and degrees, prolapse of ovaries, tubal disease, rectocele, cystocele, neuralgia, functional derangement of adjacent and remote organs, and innumerable reflex troubles and hysteria—is a living monument to the incompetency of the medical attendant on such cases. About the only contraindication to an immediate operation is exhaustion of the patient from prolonged labor or post-partum hemorrhage. Where the laceration is slight and requires but a few stitches, anesthesia is generally not required, as the sensibility of the parts is greatly diminished from the pressure associated with delivery. If the laceration is extensive, it is best to administer an anæsthetic to enable the physician to operate with care and save the woman unnecessary pain.

A Simple Method of Estimating the Specific Gravity and Hæmaglobin Percentage of Blood

Was demonstrated by Dr. William Krauss, of Memphis. He had constructed a pipette

graduated in hæmaglobin percentages, and used two fluids, one of 1000 sp. gr. at 60° F., and colored with gentian violet; the other of 1060 at 60° F., and uncolored, which would float blood up to 110 per cent. hæmaglobin. The specific gravity of the two fluids is sufficiently alike to give uniform variations for temperature and thus eliminates the temperature error without requiring calculation.

The pipette is filled with the violet mixture and introduced to the bottom of the test tube, and then allowed to discharge its contents, which will rise in the fluid, being lighter, and can be seen by its color to diffuse itself in the clear mixture. As soon as the blood begins to recede from the surface, the additions are interrupted until the proper specific gravity is obtained. The hæmaglobin percentage can then be read off from the pipette.

Report of Six Amputations for the Relief of Osteo-Myelitis following Severe Ulceration of the Leg. was made by Dr. M. Goltman, Memphis. Adjourned *sine die*.

MEDICAL SOCIETY OF NORTH CAROLINA.

The forty-fifth annual session convened in Charlotte, N. C., May 3rd. Dr. R. J. Brevard, chairman of the Committee of Arrangements, called the Society to order. After prayer, Mr. C. W. Tillett, of the Charlotte bar, delivered the address of welcome, which was responded to by Dr. J. Howell Way, of Waynesville; after which, Dr. Brevard resigned the chair to Dr. Francis Duffy, of Newbern, President of the Society.

The first order of business being the

President's Address,

Dr. Duffy began by stating that all legislation regarding the practice of medicine and maintaining a higher standard of medical education in the State, had originated in the persistent organized efforts of the North Carolina Medical Society. The same might be said as to the Board of Health, or any matters pertaining to sanitation. He urged licentiates of the medical examining board to join the Society. He had noticed that a large number of those licensed did not become members of the Society at the same session. This could be obviated if the Examining Board would hold its meeting long enough before the Society met to finish the examinations and reports thereon before the adjournment of the Society. He advocated re-mitting the usual initiation fee to those who

join during the year in which they receive their licenses. He believed that the way should be made easy for young men to join the Society. The first year of professional life is the formative stage of professional character. Young men should be taught the code of medical ethics.

He next spoke of the *Work of the Board of Medical Examiners*, making, as he said, "further suggestions to them, as they reflect the sentiments of the Society by whom chosen."

As to the matter of applicants: "It has been and is the custom to admit to examination any and all persons presenting themselves—the only requirement being the easy-to-be obtained certificate of moral character, and the merit of having existed 21 years. If by any means the applicant can answer a certain percentage of questions propounded, he obtains a license founded on the declaration that he is found qualified to practice medicine in all its branches. In those parts of the world where the standard of medical education is highest, men are admitted to examinations only after a sufficiently long training, not only didactically, but clinically and in the laboratory. The mere correct answering a few questions on a branch of medicine, regardless of antecedent practical training or experience, cannot be sufficient evidence of qualification. To obviate this difficulty, it has been proposed to have clinical examinations. This is hardly practicable. Sufficient material of different kinds is hard to obtain. The diagnosis of any given subject once made, would soon become known to all, and even if the candidate failed in the clinical test, he yet might average the per cent. necessary to obtain license. An examination which ignores the candidate's past as to training, would require to be long and tedious, especially if clinical and laboratory features are included. Better far trust something to schools which are equipped for giving all necessary training, and require all candidates for examination to give evidence of sufficient clinical and laboratory experience."

As to the interchange of courtesies between the States, Dr. Duffy thinks that where a sufficiently high standard is maintained by any State Board, its licentiates might very well be admitted to other States. He thinks it unnecessary hardships for a physician living on the border of North Carolina and Virginia to have to pass the boards of both States.

Dr. Duffy next discussed hygienic and therapeutic measures, giving a number of illustrations of the importance of both. The doctor of the future will probably differ more widely

from the one of to-day than the doctor of to-day differs from the one of the past. We knew something of him of the past and present and that the tares have been mixed with the wheat in varying proportions. With prophetic eye we may contemplate him of the future, but we know not how far distant, or how near at hand.

After appointment of Committees on Credentials, and on Finance, Dr. J. S. Brown made a report on *Medical Jurisprudence and State Medicine*. Discussed by Drs. Burroughs, Long, McMullen and Carr.

Dr. — Carr offered the following resolution *Disapproving the Anti-Vivisection Bill*, now before Congress, which was adopted:

Resolved, That the Medical Society of North Carolina in convention assembled at Charlotte, May 3rd, 1898, expresses its unqualified disapproval of the anti-vivisection bill now pending in Congress, and that the president of this Society appoint a committee of three to memorialize our Senators and Representatives in Congress to use all honorable means to defeat its passage.

Dr. J. Howell Way's report was next in order on *Expert Medical Witnesses: What is the Cause of the Seeming Dispute in which Their Testimony is held in certain Recent Cases in the Courts? Observations from the Standpoint of the Country Doctor*.

Dr. W. T. Pate read a *Report on Pathology and Microscopy*.

Vice President Dr. E. C. Register, of Charlotte, in the chair.

On motion, the privileges of the floor were extended *visiting doctors* from other States.

Dr. H. S. Lott reported on *Meddlesome Gynecology*. Discussed by Drs. Edward McGuire, Richmond, Va., Sikes and Royster.

Dr. M. H. Fletcher reported on *Practice of Medicine*.

Dr. W. C. Brownson read a paper on the *Tobacco Habit as a Cause of Disease*.

Titles of other papers, etc., were—Dr. C. L. Minor, on *What Should be the Attitude of the General Practitioner To-day Toward Serum Therapy?*

Dr. J. C. Burroughs opened the *Annual Discussion on Tuberculosis*. Discussed by Drs. Kent, R. H. Lewis, J. W. Long, J. A. Reagan, Albert Anderson, of Wilson, W. O. Spencer and others.

Dr. G. S. Tennant read a paper on *Uric Acid in the Causation of Retinal and Choroidal Disease*.

Dr. Chas. B. McAnnally's paper was entitled: *Short Bedside Experience with Fevers common to North Carolina*.

President, Dr. Duffy in chair.

Dr. W. G. Stafford reported on *Obstetrics*.

Dr. H. S. Lott read a paper on the *Treatment of the Umbilical Cord Without Ligature*.

Dr. E. F. Strickland reported *Three Interesting Cases of Obstetrics*.

Dr. J. P. Munroe, of Davidson College, illustrated by means of stereopticon, *Some Observations on the Radical Cure of Inguinal Hernia, with Report of an Interesting Case*.

Dr. R. L. Payne, Norfolk, Va., read a paper on *Abortion*.

Dr. C. L. Minor read a paper on *What Should be the Attitude of the General Practitioner to-day toward Serum Therapy?*

To fill vacancies in the Medical Examining Board of North Carolina, occasioned by expiration of the terms of Drs. J. M. Baker, President of the Board, and H. B. Weaver, Secretary, etc., Drs. E. C. Register, Charlotte, and Albert Anderson, of Wilson, were elected.

During the conjoint session of the State Society, the principal discussion was on *Vaccination and Typhoid Fever*.

After the Society met in the afternoon, Dr. J. C. Walton, of Reidsville, reported a *Case of Osteo Sarcoma Treated with the Toxins of Erysipelas and Bacillus Prodigiosus*.

Dr. K. P. Battle reported a *Case of Shawl-pin in the Trachea*.

Dr. A. J. Crowell read a paper on *Modern Therapeutics*.

Dr. R. H. McGinnis expressed *Some Thoughts on Typhoid Fever*. Discussed by Dr. Hugh M. Taylor, of Richmond, Va., especially with reference to the *surgical treatment of typhoid fever*.

The Board of Medical Examiners reported that there were 80 applicants for examination, of whom 18 failed, and 62 secured licenses to practice in North Carolina. The successful candidates for license were:

E. C. Boyte,	Charles Highsmith,
W. H. Brooks,	O. L. Hollar,
J. T. Burrus,	J. B. Hunter,
C. H. Bynum,	R. E. Jenkins,
J. I. Campbell,	Walter Jackson Jones,
G. A. Caton,	J. E. Kerr,
John Davidson,	W. P. Knight,
F. L. Darbonnier,	Plato H. Lea,
Eugene D. Denson,	Alonzo D. Lord,
G. F. Duncan,	F. T. Long,
Geo. D. Everington,	S. A. Malloy,
R. D. Flippin,	J. R. Mask,
S. T. Flippin,	W. R. McCain,
I. H. Foust,	A. S. McMillan,
F. H. Gilbreath,	Martin McNeill,
W. H. Graves,	J. W. McPherson,

J. H. Mock,
E. Moore,
J. E. Moore,
J. T. Moore,
Benj. Palmer,
James R. Parker,
A. S. Pendleton,
S. F. Pfohl,
R. J. Price,
W. L. Query,
John B. Ray,
R. S. Pierson,
W. A. Rogers,
O. P. Schaub,
N. G. Shaw,

E. H. Spainhour,
C. B. Stephenson,
G. A. Stevens,
H. D. Stewart,
J. T. Stewart,
Thomas Stringfield,
Herbert B. Thomas,
J. P. Thompson,
Thad. S. Troy,
Chas. Van Bergen,
C. C. Whitley,
J. A. Williams,
J. D. Williams,
S. B. Woody,
J. W. Young.

Drs. W. H. Brooks, of Greensboro; A. S. Pendleton, of Roanoke Rapids, and Plato H. Lee, of Alexander, made the highest marks.

Asheville, during the second week in May, 1899, was selected as the place and time for holding the next annual session.

OFFICERS ELECT.

President, Dr. L. J. Picot, Littleton.

Vice Presidents, Drs. J. W. Faison, Charlotte; H. H. Dodson and John White, Lexington, and M. A. Fletcher, Asheville.

Secretary, Dr. Geo. W. Pressley.

Treasurer, Dr. G. T. Sykes.

Orator, Dr. H. S. Lott.

Essayist, Dr. C. L. Minor.

Leader of Debate, Dr. J. P. Munroe.

Delegates to South Carolina Medical Society, Drs. J. W. Faison, G. H. Morrow, W. C. Pate.

Delegates to Medical Society of Virginia, Drs. J. C. Walton, W. A. Graham, A. G. Carr, Sam L. Montgomery, W. H. H. Cobb.

After Dr. Albert Anderson delivered the *Annual Oration*, and Dr. Hubert A. Royster the *Annual Essay*, the *Banquet* was held and enjoyed.

Dr. James C. Burroughs, *Leader of the Annual Debate*, made *A Few Suggestions on the Prevention of Tuberculosis*.

Among the most important *Exhibitors* who added to the interest of the session, we note: Garvens Bartlett Co., Surgical Instrument Makers, Richmond, Va.

Virginia Pharmacal Co, Richmond, Va., represented by Mr. T. W. Chelf. [This is the Drug Company that has received the Government contract for supplying many of the drugs, etc., to the U. S. Army during the war, referred to in our last.]

Sharp & Dohme, represented by Mr. J. L. Prior. Parke, Davis & Co., represented by Mr. R. L. Justice.

The Medical Society of Virginia was represented by Drs. Wm. L. Robinson, of Danville; J. Allison Hodges, Edward McGuire and Hugh M. Taylor, of Richmond, as Fraternal Delegates.

Editorial.

Nuclein in Malaria.

That quinia is not a specific in malarial fevers—exclusive of intermittent fevers—is becoming more and more recognized by practitioners in Southern States. So that the dictum, so much emphasized by Northern teachers and bookmakers, "that any fever that resists the action of quinine, is not malarial" must be shelved, and new observations made. Beside the numerous references made by writers to this subject—including the masterly article by Dr. Beverly Robinson (*Med. Record*, Feb. 7, 1898.)—more general attention should be given to the record of experience given by Dr. J. G. Van Marter, Jr., and other practitioners in and about Savannah, Ga., (*Va. Med. Semi-Monthly*, Jan. 28, 1898). The paper and discussions occur as minutes of the Clinical Society of St. James Dispensary, Savannah, January 1, 1898. The paper distinctly affirms that "quinin is not a specific in malaria—excluding the simple intermittents." Experience coming from such a quarter possesses many times the importance of dicta formulated in the medical author's study, surrounded by authorities who re-assert old sayings which tend to perpetuate error.

This state of affairs gives a special interest to an editorial (signed M. A. B.) in the *Cincinnati Lancet-Clinic*, April 30, 1898, which, in discussing this matter, affirms: "As quinine seemed unable to perform the allotted task, other drugs were tried, with more or less indifferent results." "Adherents there have been, and yet are to methyl-blue, arsenic, iron, strychnia arseniate.

"Among later remedies, nuclein is receiving very favorable comment. This substance is extracted from animal membranes—the spleen, testes, the thyroid, or, perhaps, more readily obtained from yeast after the method of Vaughan. It may be administered hypodermically, or in tablet form—each tablet corresponding to one drop of nuclein.

"The germicidal action [of the blood has been known for a considerable time. Further experimentation proved that this germicidal action was due to a substance, given the name of

nuclein, which was furnished by the polymorpho-nuclear neutrophiles. Now, in chronic wasting diseases, such as tuberculosis and chronic malaria, the blood, of course, deteriorates with the other body tissues. The function of the neutrophiles being thus impaired, less resistance is offered to invasion by micro-organisms. Remember the predisposing cause, insisted upon in all infections—lessened physiological resistance from whatever cause. Theoretically, in our treatment, if we can bring the resistance of the blood to invasion to par—either by stimulating the neutrophiles to increased activity, or by supplying artificially the substance needed to bring about a physiological resistance—an improvement or cure should result. As a theory all this sounds very plausible. *Practical trial* by Wilson and others contribute instances of perfect cure in cases of undoubted malaria which had proved intractable to quinine in large doses. *Small doses of nuclein* (one drop every two or three hours), caused a prompt disappearance of the cachexia, migraine, gastro-intestinal disturbances, hæmaturia, general depression, and other so-called malarial symptoms under which the patients were suffering.

"In view of the resistance of a certain percentage of cases of malaria to cinchona treatment, such reports are, to say the least, interesting, and demand a fair trial for the remedy to prove its efficacy."

Eastern Route to Denver—American Medical Association.

For all doctors living east of the Mississippi River, proposing to attend the Session of the American Medical Association in Denver, June 6-10, 1898, no arrangement can equal the "*Chutnick Special*." This "Special" will run from St. Louis to Denver, making the trip *via* Kansas City, Pueblo and Colorado Springs, and has been provided for by the Missouri Pacific Railway. It is promised to be one of the handsomest special through trains ever run in the West, consisting of Compartment Sleeping Cars, Dining Car, Buffet Car, etc., affording special accommodations for the wives and families of all who may engage passage by it. Fuller particulars will be given in our next issue; but in meantime information may be obtained by addressing the General Eastern Passenger Agent of the Missouri Pacific Railway, 301 Broadway, New York, N. Y.

The Western Passenger Association has granted a rate of one-half fare, plus \$2, thirty-day limit, for business from Chicago, St. Louis and intermediate points. Tickets on sale *East*

of the Missouri River, June 2, 4 and 5; West of this River, June 5 and 6. A round-trip rate of \$20, thirty-day limit, from Ogden and Salt Lake, is also announced. Such rates are as low as granted any Convention this year. Announcement of other rates, etc., governing the sale of tickets will be made in *The Journal of the Association* as soon as decisions are received.

The Baltimore, Ohio and Southwestern R. R. Co. are arranging for a special train from New York via Philadelphia, Baltimore, Washington, Cincinnati and St. Louis—fuller particulars of which we had hoped to have in hand before going to press. The details of this special we will have to pass over until our next.

Formation of a National Society for the Study of Epilepsy and its Treatment.

We are greatly obliged to Dr. Wm. F. Drewry, Petersburg, Va., Superintendent of the Central State [Va.] Hospital [for the colored insane of the State] for calling our attention to the circular being distributed by Dr. Wm. P. Spratling, of Sonyea, N. Y. All parties interested in the organization of a National Association or Society for the study of Epilepsy, and the Care and Treatment of Epileptics are requested to meet in the hall of the New York Academy of Medicine May 24, 1898. We are surprised to find only the name of Dr. Drewry as the sole representative of the Southern States; but in having him in the organization no one need fear but that this gentleman will be a great help in perfecting the Society, from which good results may be expected. It is conservatively estimated that there are 140,000 epileptics in the United States.

As a summary of the proposed work to be undertaken, it may thus be stated:

1. Scientific study of epilepsy.
2. Rational treatment of the disease.
3. Best methods of caring for dependent epileptics, including—
 - (a) Construction of proper homes, based upon a study of the epileptic's needs as to classification and environment.
 - (b) Study of the utilization of the epileptic's labor, for economic, scientific, and ethical reasons.
 - (c) Study of the best educational methods to be employed, including manual, industrial, intellectual, and moral forms and forces.

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Original Communications.

RARE CASE OF VERY HIGH SPECIFIC GRAVITY OF THE URINE.

By M. D. HOGUE, JR., M. D., Richmond, Va.,

Professor of Histology, Pathology, and Urology, University
College of Medicine, Richmond, Va.

That there may be considerable variation in the specific gravity of urine in health admits of no doubt; still certain limits have been accepted beyond which it would not be safe for the person concerned.

The normal specific gravity being placed at 1.020, a temporary decrease to 1.012, or a temporary increase to 1.028 does not necessarily indicate disease.

The most common affection associated with a very high continued specific gravity is diabetes mellitus, when it may reach 1.040 or 1.045, or even 1.060. In such cases we have no difficulty in accounting for the increase. But when no trace of sugar can be found, and the specific gravity is still high, we must make a quantitative analysis of the other solid constituents of the urine.

Roughly speaking, in 1,500 cc. of urine, passed in twenty-four hours, with a specific gravity of 1.020, we have about 72 grammes of solid matter, composed principally of urea—30 grammes; chlorides, 12 grammes; and phosphates, 3 grammes; and a marked increase in any one of these three constituents manifests itself very promptly in the density of the urine.

Probably the chlorides are more subject to variation than either of the other two, on account of the greater or lesser quantity of common salt taken into the system along with food.

In illustration of this last fact, I wish to report a case for diagnosis, referred to me recently by Dr. A. G. Franklin, of this city.

Mrs. J. C., a white female, aged 21, weighing 120 pounds, sought advice for acute ovaritis, which, under appropriate treatment, was relieved. She then began complaining of irritation of the bladder and scalding, burning

urine. On being questioned, she stated that the total quantity passed in twenty-four hours was not over half a pint; and every morning there was a deposit of a light-colored substance.

The bottle of urine brought me was dark in color, reaction acid, and the quantity passed in twenty-four hours 700 cc. A chemical examination showed no albumin, no sugar; the amount of urea was normal, as well as the phosphates and sulphates. Microscopically, the usual nubecula was found consisting of vaginal epithelium, mucous corpuscles, etc., but nothing of a pathological nature.

On taking the specific gravity, I was astounded to see the urinometer suddenly shoot up in the tube, and stand some distance beyond the highest reading on the scale (1.060). It was necessary to dilute the urine with an equal quantity of distilled water, and multiplying the result by two, which gave the astounding figure of 1.120.

As a rule, I estimate the percentage of chlorides, phosphates and sulphates rapidly, by the centrifuge machine, but in this instance the amount of chlorides was so great that the standard solution of nitrate of silver could not be used.

Dr. Wm. R. Jones, Professor of Chemistry in the University College of Medicine, kindly made the quantitative analysis of the chlorides, and found them to be 3.9 per cent. by weight; or the whole amount in 700 cc. of urine to be 27.6 grammes.

When we consider that from 10 to 13 grammes of chlorides are eliminated in twenty-four hours, under normal conditions of food and exercise, we see at once what an enormous increase there was here, where the chlorides are doubled in amount and the urine diminished one-half in quantity.

On enquiry it was found that the woman ate largely of salt pork, ham, mackerel, and seasoned her other food with a considerable amount of salt. She rarely drank water, but used tea and coffee.

308 East Grace Street.

A CASE OF DOUBLE UTERUS AND TWO PREGNANCIES.*

By FRANCIS D. KENDALL, M. D., Columbia, S. C.

I was called to see Mrs. S., December 28, 1888—primipara, aged 22. She had been married two years; first menstruated at the age of 12 years, and has been regular since, but with a good deal of pain. Complained also that something seemed to prevent the flow from coming out. At the time I was called to see her, she was suffering from pain in the lower part of the abdomen. She said also that she suffered pain during coitus. I told her an examination would be necessary to ascertain her exact condition, to which she consented.

That afternoon—December 28th—I made an examination, and found a band of gristle growing just in front of the uterus, about one-eighth of an inch in thickness by three-fourths of an inch in width, and a little over an inch in length. I could not get a view of the uterus at all. I proposed to remove the band of tissue, and, after consulting with her husband, she consented.

On January 1, 1889, I inserted Brewer's bivalve specula, and injected twenty minims of a four per cent. solution of muriate of cocaine in each end of the growth, which was attached anteriorly and posteriorly in the vagina. I clipped it off, with a pair of long-handle scissors, without pain, and with very little hemorrhage.

But imagine my surprise to see a double os uteri! On introducing a uterine sound into either os, the handle of the sound pointed to each thigh, respectively. The same thing occurred on introducing two sounds—that is, the points of the sounds turned one toward each thigh. I used an ointment of one drachm of boracic acid to an ounce of vaseline, on absorbent cotton, and applied it to the wound in the vagina, which healed without trouble.

On December 25, 1889, I was called to Mrs. S., in labor, and, at 4:30 P. M., I delivered her of a girl, weighing about 10½ pounds.

Mrs. S. recovered without accident. I examined her shortly afterwards, to ascertain in which division of the uterus the child had been, and found it to be the left. She was also much larger on the left side during her pregnancy.

She menstruated on January 19th, just six weeks after the birth of the child, and continued regularly. She did not menstruate

during this pregnancy. I examined her on January 20, 1889, during her menstrual period, and found the discharge to come from the right os uteri. The left os was red and pouting, if I may use the expression.

Is it not rather strange that she did not menstruate during her pregnancy, as she did so soon after the birth of her child, and only from one side of the double uterus?

Mrs. S. notified me on August 20, 1893, that she was again pregnant, and that her menses had not stopped; that she menstruated regularly, but that the flow was very little each month—nothing to compare with her usual period. I examined her to be sure she was pregnant, and requested that she let me know if her menses came on again, which she did on the 30th of August. I examined her, and found a rather scant bloody mucous discharge coming from the right os, which continued for four days each month regularly, until she was delivered, on January 31, 1894, of a nine pound boy, at 3:30 o'clock A. M.—natural labor. She menstruated on March 15, 1895, and on examination, found it came from the right os alone, as before.

Mrs. S. has menstruated regularly since, nursed both children until they were each sixteen months old, and has not had a day's sickness since the birth of the first child.

I would like the views of the gentlemen present, and would be glad to know if any of them have had a similar case in their practice. I have seen nothing resembling this case in the literature at my disposal.

1309 Plain Street.

NASO-LARYNGEAL INTUBATION.

A New Method of Tubing the Larynx.

By J. S. DEJARNETTE, M. D., Staunton, Va.

Assistant Physician Western (Va.) State Hospital, etc.

Ever since the diseases known as diphtheria, pseudo-membranous croup, oedema glottidis, and new growths within the larynx and upper trachea, etc., have been known to the medical profession, there have been constant attempts, more or less successful, to mechanically relieve the constant dyspnoea. For a long time tracheotomy, crico-tracheotomy, laryngotomy, and plunging trocar and canula into trachea, etc., were our only resources, and each of the above may still be useful in selected cases. But the cutting methods should be our last resort, and are giving place to intubation, which has been almost perfected by that great man, Dr. J. W.

O'Dwyer, who called a halt to the surgeon's knife, and demonstrated the superiority of his tubes, in most cases, to the operative methods. The chief advantages of laryngeal intubation are: The greater readiness of parents to consent to a procedure not requiring the dreaded knife; it inflicts no wound to expose the patient to infection; and the air is warmed and moistened in the mouth or nose, as the case may be, before entering the lungs.

But there are many cases in which the O'Dwyer intubation is not practicable—1st, because his case is expensive, costing \$24; 2d, it requires considerable skill to introduce the tube; 3d, it may be coughed up and be swallowed.

Having recently had a case of œdema glottidis in a man 80 years old, and not being equipped with the O'Dwyer case, I contemplated tracheotomy, as the dyspnoea was rapidly increasing and death seemed imminent. The face was cyanosed, lips blue, eyes dull and filmy, body bathed in cold perspiration, inspiration noisy and accomplished with great effort, pulse fairly good. It occurred to me to attempt intubation by passing a soft rubber tube through nose into the wind-pipe, for the operation of crico-tracheotomy in one so old and feeble seemed almost hopeless. During the past nine years it has been my custom to administer nourishment and drink through the œsophageal tube to such of my patients as, laboring under some delusion, refuse it per orem. This tube is passed into the œsophagus through the nose, making it impossible for the patient to bite or compress it, and doing away with the gag, which is often difficult to hold in position, and may injure the teeth of a violent resisting patient. I took one of these tubes (No. 17 E, soft rubber), cut off the end transversely just above the eyelets, and, to satisfy myself that it would allow sufficient air to pass through, I inserted an end in my own mouth, held my nose, and breathed through it exclusively for five minutes with perfect comfort. Then, anointing the tube with vaseline, I passed it down the left nostril, watched his respirations, and on inspiration it entered the larynx by giving it a quick shove. Immediately the labored breathing ceased, the lividity and perspiration disappeared, eyes brightened, and he became much more comfortable, and soon slept. Pneumonia developed within twenty four hours, and he died in forty-eight hours, though the laryngeal stenosis was entirely relieved.

Notwithstanding this is a dead case, I think the marked improvement after intubation demonstrated that it would have probably bene

successful in a younger and stronger subject, and I will certainly try it again when a suitable case arises in my practice.

The advantages of this method over the O'Dwyer intubation and the cutting methods I will enumerate as follows:

1st. The tube is cheap and easy to obtain; any large soft rubber catheter will do.

2d. It requires no special skill to introduce it, if the respirations are watched, and the tubes shoved down to the naso-pharynx and held there until inspiration, when a quick, smart shove almost invariably forces it into the larynx. However, if it does not, it is an easy matter to insert the index finger of the left hand into the mouth, press the epiglottis forward and downward, and, with the finger as a guide, the tube is forced into the larynx readily, which will be perceived at once by the relieved dyspnoea and current of air passing out through the tube on expiration. The lower end of tube should pass epiglottis by about two inches in adult and less in younger persons.

3d. It has this advantage over tracheotomy—it warms the air while passing through the whole length of the nose, naso-pharynx, and larynx.

4th. Nourishment can be given while laryngeal tube is in position, by passing the œsophageal tube into stomach through the mouth or other nostril. It is easily cleaned by passing a feather through the tube with tuft on small end while patient holds his breath; or, if necessary, it can be taken out, and another tube inserted while cleaning the occluded one. If stopped up suddenly by applying the mouth to outer end, the obstruction can be dislodged by blowing forcibly when patient takes an inspiration.

5th. It will give time to get patient ready for any operation thought necessary.

6th. It will clearly show whether the stenosis has reached the bronchi or not.

7th. Parents readily agree to it.

8th. A small thread can be secured to outer end and tied around the ear or neck, which will provide against swallowing, etc.

To my knowledge there has been no similar procedure recorded, and this method was suggested to me by frequently administering nourishment to my patients through the œsophageal tube passed through the nose.

Medical College of Virginia.

The total number of matriculates in all three departments during the session 1897-98, we are informed, was about 190 instead of 160 as had been reported to us for our last issue.

A CASE OF ACUTE OBSTRUCTION OF THE INFERIOR OPHTHALMIC VEIN AND OF ITS LARGER BRANCHES.

By JOHN DUNN, M. D., Richmond, Va.

Professor of Diseases of the Ear, Nose and Throat, University College of Medicine, and Associate Professor of Diseases of the Eye in the Same; One of the Surgeons to the Richmond Eye, Ear, Nose and Throat Infirmary, etc.

James F., aged 36, negro, came to the Richmond Eye Infirmary, December 9th, 1897, giving the following history: On December 2d, his left eye began to swell, and within three hours had gotten into the condition seen when he presented himself for treatment. From between the lids protruded a large, red, glistening mass, which, on inspection, proved to be the conjunctiva and subconjunctival tissues swollen from oedema. There was no discharge from the surface, save tears mixed with a small amount of sticky mucus, nor was the surface inflamed, although it was much congested from exposure to the light and air. That the swelling was due to simple oedema could be proven by throwing a strong light on it from one side, when the swollen tissues became clearly translucent. There was no paralysis of any ocular muscle, although the movements of all of them were interfered with by the oedema of the lower half of the orbit, which had in turn caused a considerable degree of exophthalmos. There was no oedema of either lid, no oedema of the conjunctiva covering either lid.

That which made the case especially worthy of notice was the fact the oedema affected only the conjunctiva and subconjunctival tissues of the lower half of the orbit, exclusive of that covering the lower lid. The oedema ceased entirely at the mid-horizontal plane of the orbit, leaving the tissues above this level in a normal condition, the sclera being everywhere as visible as in the unaffected eye. Vision, cornea, pupil, iris and interior of the eye were all normal.

There was, in short, no involvement of the ball. Under atropia the iris dilated ad maximum, the upper half dilating much more rapidly than the lower. An incision, a quarter of an inch deep, was made the whole length of swelling; from this came serum, and, where a vessel was cut, blood. An aristol-boric acid salve, with appropriate protection for the swelling, was ordered. There was no discoverable nose, throat, ear or heart trouble. The patient said that about one month prior to the appearance of this swelling, he had had "an

inflammation of the eye," of which, however, no clear history could be obtained, and of which no traces remained.

On December 11th, the accompanying photograph was taken. The condition of the swelling had in no way been permanently lessened by the deep incision, which had closed normally. The oedema was still confined to the lower half of the orbital tissues, although the upper line of demarcation between oedematous and non-oedematous conjunctiva was not quite so clearly defined as it had been two days previously, and, furthermore, a slight congestion of parts of conjunctiva of the upper half of the ball had appeared. There was, however, no oedema yet present in this region. The photograph shows fairly well the amount of interference with the movements of the ball caused by the exophthalmos. The patient has at no time suffered any pain from the swelling. Iodide of potash internally ordered.

On December 18th, as no further change in the appearance of the swelling was visible, an incision was made into the oedematous tissues. This, however, healed as the former one had done.

On December 23d, there was no visible change in the condition of the eye, save that its movements were somewhat less restricted, and the small veins along the upper edge of the oedematous area were much engorged, suggesting that they were enlarging in the endeavor to establish a collateral circulation sufficient to drain the swollen area.

On December 30th, the circulation had been through the aid of the veins so far established as to allow considerable movement to the eyeball in all directions, while a large longitudinal fold had appeared along the upper surface of the hitherto tensely oedematous portion of the conjunctiva.

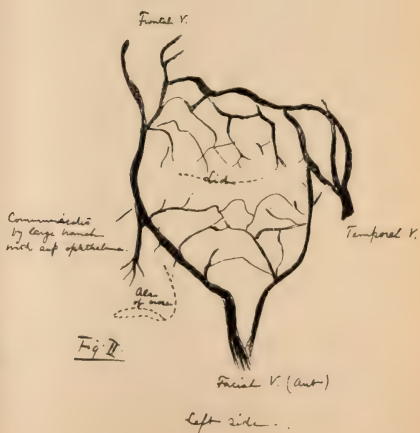
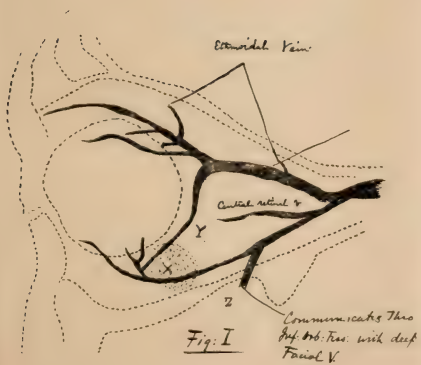
January 6th: Disappearance of oedema from the conjunctiva of ball and considerable reduction in that of the cul-de-sac.

January 13th: The swelling along the cul-de-sac still further diminished in size. Eye movements normal. No longer exophthalmos, save such as is found in the other eye.

January 20th: There is still present a considerable mass of solid tissue along the whole length of the inferior cul-de-sac.

February 10th: Disappearance of the oedema. There remains, however, a considerable fold of hypertrophied sub-epithelial tissue along the inferior cul-de-sac. Patient did not again return for treatment.

The sudden onset of the oedema, the appearances presented by the case, and its history,



point to acute obstruction of the main branch or branches of the inferior ophthalmic vein as the cause of the œdema with its resulting exophthalmos. The communications of the superior ophthalmic are so large and numerous that simple, non-inflammatory occlusion of its main branch could not lead to permanent œdema of the conjunctiva of the upper half of the orbit.

The accompanying diagrams, made from drawings kindly furnished me by Dr. John D. Huntington, of the College of Physicians and Surgeons, New York, show the course of the inferior ophthalmic vein and its main communications. The lower lid veins do not communicate directly with the inferior ophthalmic—hence simple obstruction of the main branches of the latter would not produce œdema of the lower lid. This, however, might occur as the result of infectious thrombosis of the branches of the inferior ophthalmic.

At Y, Fig. 1, is the anastomosis between the inferior and superior ophthalmic veins; it is a fairly large vessel, is situated "a short distance behind the bulbus," and is nearly constantly present.

In our case, if we had to do with a simple thrombus of the inferior ophthalmic, its situation must have been anterior to the vein Y. Possibly this vein may have been situated abnormally far back, possibly it may have been absent.

The presence of a gumma in the angle X, Fig. 1, occluding both the inferior and ophthalmic and the branch anastomosing with the superior ophthalmic, might explain the œdema and account for some of the exophthalmos. That there was exophthalmos shows that the obstruction was posterior to the capsule of Tenon, inflammation of which, as in gout, may be accompanied by excessive œdema of the bulbar conjunctiva. Tenonitis, however, is a very painful inflammatory process, while in the case under consideration the patient suffered no pain. The sudden appearance of the œdema with exophthalmos in this case suggests the possibility of thrombosis of the inferior ophthalmic as its cause. The absence, however, of any condition, local or general, by which the production of a simple thrombus might be caused makes it not improbable that a retro-bulbar gummatous tumor was the cause of the obstruction. The symptoms were, at no time, those of infectious thrombosis with endophthalmitis of the inferior ophthalmic and its tributaries.

The photograph shows fairly well the œdematous condition of the lower half of the bul-

bar conjunctiva; it shows, furthermore, the restriction of the downward and inward movement of the affected eye when the sound eye is turned down and out. We might infer from the photograph that there existed also slight œdema of the lower half of the conjunctiva of the right eye. This, however, was not the case. In both eyes, there was a considerable amount of normal exophthalmos, which, however, was considerably increased on the affected side. More than once I have seen in the negro race cases of immense hypertrophy of the tissue of the inferior cul de sac; the appearance, however, differed essentially from the œdema as seen in this case.

BENZOSOL IN DISEASES OF THE RESPIRATORY APPARATUS.*

By MARK W. PEYSER, M. D., Richmond, Va.

Lecturer on Physiology, University College of Medicine; Secretary Richmond Academy of Medicine and Surgery.

The remedy which is brought to your notice to night is a combination of guaiacol and benzoic acid—the benzoate of guaiacol—sometimes called benzoyl-guaiacol. It is a synthetic product, and, of course, related to creosote, is a crystalline powder insoluble in water, but readily soluble in chloroform, ether and hot alcohol. Decomposition of the drug occurs in the stomach partially, but chiefly in the small intestine, therefore its use in diarrhœa; but I do not design to dwell upon this nor its employment in gastric and intestinal dyspepsia, cystitis or diabetes, in all of which it is recommended.

I do desire, however, to direct your attention to its use in some of the affections of the respiratory apparatus, and would say that I am delighted at having found an agent upon which I can with almost perfect satisfaction, depend in the treatment of chronic bronchitis, a disease the proper cure of which, has been a constant source of trouble to me.

CASE I.—Jennie T., house girl, age 19, had been coughing for two weeks, and was rapidly losing flesh. She was given ten capsules, each containing five grains of benzosol, and within twenty-four hours cough had entirely disappeared, nor has it ever returned.

CASE II.—Sallie H., house girl, age 25 years, of delicate physique, stated that during the night before consulting me she had been kept awake by constant coughing. Her talk with me was constantly interrupted for the same

* Read before the Richmond Academy of Medicine and Surgery, May 10, 1898.

reason. She was treated in a manner similar to Case I, but relief ensued in twelve hours.

CASE III.—Joseph Q., railroad man, age 36 years, had for a couple of years or more—the history was very indefinite—suffered from constant pain in the right side of the chest, which was accompanied by a hacking cough. Benzozol in five grain capsules, one every three hours, was administered, resulting in entire relief within a week. He was, however, kept upon the remedy for some time longer to insure permanency.

This patient, whose work is such as to keep him exposed to all the changes of the weather, consulted me again, about three weeks ago, for a fresh attack. Renewal of the medicine brought about a cure in two days.

CASE IV.—T. F., bar-keeper, age 35 years, had had bronchitis for the past four years. He was an inveterate tobacco-chewer. He was advised to stop the use of tobacco entirely, and given ten capsules of benzozol, each containing five grains. Directions given were as in other cases. In one week his trouble was cured, and so far as I know, there has been no return.

CASE V.—Charlie D., age 2 years, delicate from birth. When six months old, I attended him in an attack of capillary bronchitis that came very near to putting an end to his existence. Despite strictest hygienic precautions and various remedies, as emulsions of cod-liver oil, and petroleum, tonics, etc., he had numerous attacks of bronchitis, not again, however, of the capillary form. Finally, in one seizure, he was given benzozol in ten one-grain powders, a dose every three hours. This relieved more promptly and effectively than any remedy that had been employed, and it seems also to have counteracted, in a great measure, the bronchitic tendency.

CASE VI.—S. L., tanner, age 40 years. Was called to this case on the evening of October 11, 1897, and was told there had been a physician in attendance for five days previous, but no relief being forthcoming, he desired other advice. The case was one of acute bronchitis. He was given eight capsules of benzozol, directions given being the same as in other cases. Relief resulted in twenty-four hours, but he was advised to have the prescription repeated, and he went back to work, in spite of remonstrance, in four days.

CASE VII. was one of acute lobar pneumonia, which presented nearly all the classic symptoms of that disease—rigor, prune-juice sputum, consolidation, cough, etc. A. H., driver, age 43 years. Was sent for on November 20, 1897, the day after he had the chill, and found

him suffering with agonizing pain in the right side, dyspnoea, and incessant coughing. Temperature was 103°. A combination purgative and anodyne, and cough remedies and a blister were prescribed. On the next day, I found that both sides were involved; other symptoms were the same. Cold water applications were directed. This state of affairs continued until the fourth day, when the temperature ran up to 105°, and other symptoms became aggravated. The coughing of the patient during the paroxysms, which shook the bed, his endeavor to suppress it, and the agony depicted on his face, were painful to behold. Administration of benzozol in five-grain doses was begun, with the result that temperature began to fall steadily, until on the fifth day after the commencement of the remedy it disappeared, and with it, cough and other symptoms. Ten days later, the patient was discharged.

CASE VIII.—This is a case of acute tuberculosis. J. F. W., waiter, age 28 years. When seen, said that three weeks before he was taken with cough, for which he had used various remedies, but without success. There was a history of night-sweats and pain in the left side of the chest and in the soles of the feet—the latter being so severe as to render the patient incapable of walking. Fever was present throughout the day, with evening exacerbation. Expectoration was at first frothy; later it was muco-purulent, and, at times, streaked with blood. Dr. MacLean, who examined it, found it to contain tubercle bacilli. Before this, however, there being no râles that I could discover, I followed the advice of a French physician, and administered iodide of potassium, and in a couple of days, physical examination revealed a cavity in the left lung. In the meantime, the patient had been taking benzozol with exceeding regularity, but, notwithstanding the utmost care, he died within six weeks. Petroleum emulsion with hypophosphites was used in conjunction with the benzozol. I am inclined to think, from the rapidity with which the patient declined, that the disease had fastened itself upon him long before the time he stated.

It is fair to say that in this case, at one time much improvement was noticed, namely, cessation of night-sweats and diarrhoea, relief of indigestion and dyspnoea, and diminution of coughing. At one time, there seemed to be a gain in weight.

As unsatisfactory as was the termination of this case, yet, from various reports of the efficiency of benzozol in tuberculosis, especially

in its incipency, one is warranted in giving the remedy further trials.

311 North Twelfth Street.

LEGAL RELATIONS OF IDIOCY AND IMBECILITY.*

By EDWARD C. MANN, M. D., F. S. S., New York, N. Y.

Physician in Chief to *Sunny Side Private Hospital for Mental and Nervous Diseases*; Author of "*A Manual of Psychological Medicine*," etc.

Idiocy is a state of undeveloped mind. There are no ideas, or but few. The predisposing causes of it are marriages of consanguinity, accidents and disease during gestation and parturition, disease of early infant life (rickets, syphilis, tuberculosis, struma, convulsions in dentition, etc.), and intemperance in the parents. Idiots may possibly recover and become intelligent. The lips of an idiot are thick; the tongue is thick and deficient in muscular power; the roof of the mouth is high and narrow; the teeth come late; the lobules of the ears are either deficient or badly developed. The eyes are often affected, there being myopia, hypermetropia and congenital cataract. Stammering is very common. There is defective size of the brain and defective gray matter, and want of development of the convolutions. There may be either an entire absence or a rudimentary condition of various parts of the brain; deaf dumbness is common, and some idiots are born deaf, dumb and blind. The higher faculties are wanting, and the lower are very marked. Idiots may have some degree of memory, and may be taught to a greater or less extent. The intellectual faculties are so deficient in a medico-legal sense as to make these unhappy beings irresponsible for criminal acts which they may commit, and they are incapable of managing themselves or their affairs.

In a case of Guerniot and Broca, the brain and membrane weighed only 406 grammes, and there was atrophy amounting to 52 grammes, of the right hemisphere. Two vicious conformations which destroy symmetry are those of *scaphocephalia* and *plagiocephalia*. The first of these conditions is a change from the natural shape of the skull, in which the parietal bones are united at the sagittal suture, so that the lateral enlargement of the brain is prevented, while that in the direction of the occipital and frontal bones is exaggerated.

The parietal bones themselves are considerably increased in length. This distortion has been compared to a boat, and named from the supposed resemblance. There are forty cases on record. Virchow and Huxley hold that this deformity is the result of the obliteration of the sagittal suture, in consequence of an inflammatory action taking place during intra-uterine life, which unifies and consolidates the two bones into one and prevents their lateral enlargement, and necessitates an elongation before and behind. The latter deformation—*plagiocephalia*—consists in an oblique or oval deformity of the cranium, in which the greatest diameter, instead of being longitudinal and antero posterior, is oblique and diagonal; and further, that one of the oblique diameters is greater than the other—in other terms, there is a projection of the frontal bone upon one side, and of the occipital bone upon the other.

According to Topinard and Broca, the anomaly may be traced either to mechanical, pathological or posthumous causes. Such skulls as have been under observation have been generally those of the insane. These cases have been gathered from the *Annales Medico-Psychologiques* and from the bulletins of the Society Anthropologic. Bateman defines idiocy as an infirmity, consisting, anatomically, of a defective organization and want of development of the brain, resulting in an inability, more or less complete, for the exercise and manifestation of the intellectual, moral and sensitive faculties. There are various shades and degrees of this want of development from those whose mental and bodily deficiencies differ but slightly from the lowest of the so-called sound minded, to those individuals who simply vegetate and whose deficiencies are so decided as to isolate them, as it were, from the rest of nature.

The distinction between the idiot and the insane man has been stated as "*L'homme en demence est privé des biens dont il jouissait autrefois c'est un riche devenu pauvre. L'idiot a toujours été dans l'infortune et la misère.*" Dr. Howe, of Massachusetts, found that 99 out of 359 idiots were the children of inebriates. Dr. Kerlin gives a proportion of 38 out of 100. Dr. Beach found a proportion of 31.6 per cent. Idiots do not necessarily exhibit an obvious malformation of the cranium or skull. Dr. Bateman states that one of the most remarkable cases of idiocy he has ever seen was that of a child with a well formed head, remarkably handsome face, and well-proportioned body. It has been stated that three-fifths of the idiots have larger heads than men of ordinary intelligence, and sometimes the brains of idiots pre-

*From advance sheets of the author's work (second edition) on *Medical Jurisprudence of Insanity*, to be published about July, 1898.

sent no deviation in form, color and density from the normal standard. Although the grey matter of the brain is connected with the intellectual power, this relation is by no means a fixed one, for richness of grey matter and abundance of nerve cells may be accompanied by idiocy; therefore, mind and matter cannot yet be regarded as identical. The mental condition of idiots is not irremediable. Under proper training, in a suitable asylum, he may become sociable, affectionate and happy. The results of education by such men as Drs. Howe, Bateman, Kerlin, Brown, Saeger, Seguin and others, have shown that by education science has sent the idiot out into the world able to mix in society.

Imbecility is a less degree of mental deficiency than idiocy. If the imbecility dates from birth, the sensitive and intellectual faculties are somewhat developed; sensations, ideas and memory, as well as the affections, passions, and even inclinations, exist, but only in a slight degree; such think, feel and speak, and are capable of acquiring a certain amount of education (Bucknill and Tuke). Some imbeciles know those about them, are affectionate to their friends, but are often passionate, and are very likely to have a strong tendency to theft. They can work and can take care of themselves, but many of them are dangerous to society, as they are homicidal and apt to perform incendiary acts. There is an absence of intellectual power to a greater or less extent, conjoined with the excessive action of animal propensities. In imbecility neither the understanding nor sensibility has been sufficiently developed, while in the condition of dementia, which we shall next discuss, the patient has had these faculties and has lost them through brain disease. In imbecility, as in idiocy, the action of the mental power is disturbed by the ever-present disease, and is constantly laboring under a morbid condition, the tendency of which is to distort the moral perceptions and destroy the healthy balance of the mental faculties.

Legal Relations of Imbeciles.—In determining the civil and criminal responsibilities of the imbecile, several points must be borne in mind by the lawyer. With regard to their moral sense, this class have no clear, definite idea of right, justice or law. They cannot feel for the sufferings of others. They see, only in the most imperfect manner, the consequences of their acts. They gratify every appetite or desire, regardless of consequences. Their appetites and passions are not restrained by the higher faculties of the mind, which are deprived, by disease or bad development, of their

power to restrain or guide. Theft is very common with them. They have not the mental competence necessary to make them legally criminal, and it does no good to punish them in this way, as they recommence their offences the moment they are released from confinement, and thus are thought to be simply wicked. Those who have strong sexual propensities soon become guilty of outrages on women, and are imprisoned, as they are judicially decided to be rational beings. There are many imbeciles who daily engage in daily occupations that require no great extent of mind, and who, perhaps, are merely thought singular by their friends.

With respect to their civil responsibilities, if there exists an inability of comprehending the value of numbers, the person is evidently not capable of managing property. Ray very properly says, that the real capacity of an imbecile's mind is to be estimated, not from any single trait, but by a careful appreciation of all its powers, and especially in their relation to the particular act in question.

Relative to marriage, the person should be proved to have had a rational idea of the marriage contract, and of the duties and relations incident to the marriage life. Respecting a business contract, the question would be, had the person an adequate idea of the money involved in the transaction? Was he independent and executive, or was he credulous and submissive to his friends, regardless of what happened? It is no test of capacity that a person of either sex has behaved fairly well in company, especially when they have moved in cultured circles. This, by constant repetition, has become automatic. Can the alleged imbecile form a judgment respecting any new object? How is his memory? Is he subject to gusts of passion? Is he unfitted for all matters that require more than a mechanical mode of action? Is he aware of his weakness, and of the intellectual superiority of others? Can he seize an idea so clearly as to impress it on his mind? Is he irritable and suspicious? Has he a clouded state of the understanding and memory? Is he incapable of judging and deciding, when it is necessary to weigh opposing motives? Can he express a complex idea? Can he appreciate the circumstances that distinguish particular cases, and appreciate them according to their just value? The lawyer and jurist should carefully weigh these points when the civil responsibilities of alleged imbeciles are in question.

Respecting the *will* of a weak-minded person, if the person in question was capable of under-

standing its nature and effect, the instrument should be established, and *vice versa*. The question of interference or improper influence should, of course, be carefully scrutinized. (See Swinburne Wills, part 2, § 4, and 1 Story Eq. Jur., 238.) Ray says, when the mental deficiency has not been sufficient to provoke interdiction, it very properly constitutes no legal impediment to marriage; but in proof of fraud or circumlocution, the marriage has been pronounced by the courts null and void. *Portsmouth v. Portsmouth*, 1 Hagg. Ecc., 355; *Miss Bagster's case*, *ante*, § 85.

The last imbecility case in New York that greatly attracted public attention was that of Miss Minnie A. Pancoast, who was deaf and dumb and suffered from the first degree of imbecility, whose relatives sought for a decree of nullity of marriage which she secretly contracted with her father's *masseur* Van Dorn. That this young lady was considerably below the average in point of intellect, cannot be doubted, as the evidence to that effect was remarkably strong and copious. She had very few ideas on any subject. Her intellect evidently was not strong enough to restrain or direct any tendencies of her nature. She could not reply to questions relating to any but the most commonplace subjects, even in the deaf and dumb language, and though a skilled interpreter in the sign language. She was not acquainted with arithmetic, and was therefore incapable of taking care of her property. She had no judgment and reasoning power as to the marriage contract and relation. The marriage contract is a very simple one, and it does not require a very high degree of intelligence to understand it. Miss Pancoast, in our opinion, did not have either such a degree of mental capacity as to enable her to have a comprehension of the words of promise exchanged, or real appreciation of the engagement entered into; neither could she understand the nature and value of property and its management. She deserved the protection of the court and had it. The sheriff's jury and commissioners before whom the case was tried saw at once that Miss Pancoast was incapable of comprehending the nature of the marriage ceremony and contract, and also of managing her own property; and the case was brought to a speedy termination by the graceful withdrawal of the counsel of Van Dorn, upon the writer's opinion, expressed after a personal examination, that Van Dorn had no case, and that real incapacity existed, which should render such a marriage null and void. The jury rendered a verdict of unsoundness of mind.

In every such case the practical questions are: 1. Whether there are or are not such peculiarities in the conduct of the person under inquisition as are known to be characteristic of imbeciles. 2. Whether there is incompetency to manage property. 3. Whether the person, at the time of the marriage, is capable of understanding the nature of the marriage contract.

The fact of a person's being deaf and dumb certainly does not raise a presumption of insanity, and any of the deaf and dumb can legally contract marriage when it can be shown that they understand the meaning of the contract.

Proceedings of Societies, etc.

THE OHIO STATE MEDICAL SOCIETY, MAY 4-8, 1898.

The fifty-third annual meeting convened in Columbus, May 4, 1898, President Dr. William H. Humiston, of Cleveland.

Partial Cataract.

Dr. C. F. Clark, of Columbus, said that even among young people some opacity of the lens is often present although undetected; in many, who never suspect it, careful inspection reveals the presence of incipient cataract. Often only those who have decided cataract present themselves for treatment. Many who complain of nothing more than a slight dimness of vision, find upon careful scrutiny that either the radiating striæ or the outer layers in the periphery of the crystalline lens were undergoing changes which justify the diagnosis of partial or incipient cataract. It does not follow that all of those in whom such changes are found should look forward to the development of mature cataract, or that anything should be done for them; but, in a certain proportion of these cases, asthenopic symptoms do present themselves which require attention. These symptoms are more frequently observed when changes in the lens make their appearance before the period in which the accommodative power has been gradually reduced by the advance of presbyopia.

If the rigidity of the lens, which often accompanies opacity, makes its appearance before the natural development of presbyopia has caused a cessation of the activity of the ciliary muscle, the action of that muscle in its efforts to relax the suspensory ligament, and thus bring about accommodation, being unavailing leads to con-

gestion and often to pain or discomfort. Development of opacity of the crystalline lens is frequently due to degenerative changes in the choroid coat or the whole uveal tract. When true cataract develops, there is usually, even in the early stages, a marked difference in the degree of transparency of the various portions of the lens. The nucleus which, in the normal eye, is more dense than the cortical layers, may become proportionately still more dense, thus accentuating the distinction between nucleus and cortex. The opacities of the outer layers of the lens may assume a great variety of forms in accordance with the portions of the cortex affected; these varying conditions will be accompanied by corresponding variations in the symptoms. Dimness of vision, while usually present in well defined incipient cataract, may be absent, and it may result from so many other causes that its value as a symptom is comparatively slight in the early stages of lenticular opacity. As long as the central portion of the lens remains clear the vision may be excellent. The diminution of vision usually approaches so insidiously that unconsciously the patient often adjusts his standard of acuity of vision to that of which his own eyes are capable.

When a patient can afford to await the maturity of a cataract it undoubtedly adds to our assurance of success. But in a number of cases in which the circumstances make it necessary to remove immature cataracts, the results have been so admirable as to convince the essayist that we have often unnecessarily delayed operation on account of incomplete opacity of the lens. Since we have learned to adhere strictly to the principles of asepsis, the danger of an operation upon an immature or partial cataract has been materially reduced. And if the patient is so situated that years of waiting means years of privation, we should undoubtedly operate even if the cataract is not mature.

Some Medical Aspects of Capital Punishment.

Dr. F. O. Marsh, of Cincinnati, after reviewing the usual modes of inflicting capital punishment, remarked that the only poisonous drug of importance known to be absolutely free from pain in its action, morphine, is slow in action, might be rejected by the stomach and might prove a failure even when given in a supposed fatal dose. Probably the best agent would be chloroform. Death by this means is essentially painless, and perhaps would supervene in a half hour.

Intestinal Obstruction, Operation and Recovery, with Report of Case.

Dr. Sherman Leach, Mt Sterling, believed that operation should be resorted to before fatal peritonitis develops. After one trial with the various remedies, calomel, oil, salines, aided by rectal enemata of various kinds, if the bowels are not opened and any symptoms of obstruction exist, prevent peritonitis by opening at once, without waiting for symptoms or peritonitis. The case reported was one in illustration.

Syphilitic Laryngitis, with Cases.

Dr. Howard Straight, Cleveland, said that the four conditions of the larynx most often requiring differentiation in a given case are *lupus*, *carcinoma*, *syphilis*, and *tuberculosis*.

Lupus of the larynx ordinarily attacks this organ secondary to cutaneous lupus. As a rule, it attacks the epiglottis first. It is characterized by a slow but progressive destruction of tissue. If there is any question as to its being syphilis, it can be easily settled by administering increasing doses of iodide of potash.

Carcinoma of the larynx is a rare disease. While carcinoma may attack any part of the larynx, it usually attacks the articular bands first. The diagnosis, by the aid of the microscope, is, as a rule, easy. In certain cases, the diagnosis ought not to be made positively until the patient has been subjected to increasing doses of iodide of potash.

Tuberculosis of the larynx is a common disease. Anæmia of the larynx, the pear-shaped condition of the arytenoids, the swelling of the inter-arytenoid space, the associated pulmonary tuberculosis, ordinarily make the diagnosis of the laryngeal condition easy. If any question exists in the mind of the laryngologist, the administration of increasing doses of iodide of potash will easily exclude specific disease.

Syphilis of the larynx is a common disease. If mistaken for any one of the other diseases mentioned, and increasing doses of iodide of potash are not administered, the results may be deplorable. Such medication can in no event do great harm. If lupus or carcinoma, its administration for a short time is a matter of little consequence. In laryngeal tuberculosis, anything tending to disturb the gastrointestinal tract would be undesirable, and yet, if any doubt as to the condition of the larynx exists, the administration of the remedy is extremely valuable. Laryngeal tuberculosis and syphilis of the larynx may exist together. In such a case, the increasing doses of iodide of potash ought certainly to be given. Theoretically, the diagnosis of the conditions men-

tioned is easy. However, certain cases occur in which a positive diagnosis cannot be made.

Monstrosities vs. Maternal Impressions.

Dr. George S. Courtright, Lithopolds, reported three monstrosities in three consecutive pregnancies. The first child was born after the mother had nursed the father while recovering from an accident. The other pregnancies followed in rapid succession. The doctor then gave it as his opinion that if the mother did not become pregnant again for four or five years, she might have a healthy, well-formed child. Almost five years after the birth of the last deformed child, the woman was delivered of a healthy, well-formed child, who is now a fine intelligent boy.

Summary of Certain Studies in the Morbid Anatomy of Epilepsy.

Dr. A. P. Olmacher, Gallipolis, reported the results of eighteen autopsies. The most prominent anomaly was the *large thymus body*. This peculiarity led to the study of the literature. At least two other morbid conditions were found with the same anatomical features as were presented by these cases, namely, *laryngismus stridulus* and *sudden deaths in adults* with no assignable reason. Taken in their entirety, the morbid conditions found in these cases, and which have always been found in thymic asthma and thymic sudden death, make a picture of what the German pathologists style "*the lymphatic constitution*." Aside from the hyperplastic thymus, there is a general lymphatic hyperplasia and a narrowing of the arteries, and often evidence of rickets.

Uric Acid Retained in the Body—Its Effects, etc.

Dr. D. N. Kinaman, Columbus, said that uric acid may be retained in the body either as uric acid or urates. It is not a poison, and its effects are mechanical. It may exist free in the blood serum, or be precipitated about the joints as urate of soda, or in other organs, or, after a more or less prolonged retention, it may be discharged in lithic acid storms through the kidneys. Its retention in the body is marked by a diminution of the urine and increase of vascular tension. Its discharge is accompanied by increase of urine and decline of vascular tension. The amount of uric acid which may be present in the body depends upon the food ingested and the integrity of digestion and excretion, exercise, etc. Heredity plays an important part in the production of the uric acid diathesis. All persons having a hereditary or an acquired uric acid diathesis are in a state of unstable equilibrium, and circumstances determine whether the outcome

shall be lithæmia, gout, migraine, fibrosis, or some other dystrophy. The relations of migraine, epilepsy and asthma have long been recognized. The clue which joined them has not been very clear. That indigestion and putrefying contents of the intestines have an incidental relation to epilepsy and migraine, has long been recognized, and it has been the custom of the profession to advise light suppers of milk and bread, because such a regimen is influential in warding off nocturnal seizures.

The essayist has inherited migraine, which has been hereditary in five generations, and with it other gouty manifestations in the enlarged metatarsi-phalangeal articulations of the great toes, urinary calculi, and frequent uratic deposits in the urine. On a few occasions, swelling and extreme pain in the great toe joints have been suffered, as well as lithic acid storms. Respiratory distress in fast walking is a precursor of the headaches, which subside after the attacks. As the attack declines, the quantity of urine increases, and often lets fall deposits of uric acid. After these storms, no amount of exposure, or indiscretion in diet, loss of sleep or fatigue, which are very potent in causing the headaches at other times, cause it for some time thereafter, until uric acid has again accumulated.

In addition to these symptoms, lithæmia causes vertigo, slow pulse which often intermits, and vascular tension. The patient is irritable, moody, hypochondriacal, and hysterical. He has great variety of digestive disturbances, disordered vision, and flying pains in the limbs and about the joints. Imperfect digestion, and dilatation of the stomach are associated with large uratic deposits in the urine.

Uric acid causes or aggravates cutaneous eruptions, tonsillitis, pharyngitis, bronchitis, asthma. It retards the healing of wounds, builds stone in the bladder and infarctions in the kidneys. It causes a world of distress, and then has gout to fall back upon as its master-piece.

When the diagnosis is established, the treatment is obvious. Aside from the use of colchicum, there is nothing better than alkaline waters. Beyond this, the food is the most important consideration. Meats, soups, glands, which contain large amounts of uric acid, should be used sparingly, or not at all. Carbo-hydrates and vegetable albuminoid substances, with no alcoholics, should constitute the diet. Exercise, frequent and prolonged, as well as methodical, should be prescribed.

Dr. S. R. Wenner, Cleveland, reported forty cases of *Lumbar Puncture* that occurred under his care.

Henrotin's Method in Pelvic Abscess.

Dr. J. C. Reeve, Jr., Dayton, described the plan as follows: Steady the cervix by vulsellum forceps, and incise the vaginal mucous membrane at the cervico-vaginal junction, either just behind or just in front of the cervix, avoiding the sides of the cervix for obvious reasons. The anterior or posterior fornix is selected according to its respective nearness to the collection to be reached. After cutting through the membrane, continue the dissection bluntly, by means of the finger or of the closed blunt scissors, adhering to the middle line of the uterus, as in hysterectomy. By keeping thus against the firm tissue of the uterus, one cannot go astray, and is on safe ground. After getting quite above the cervix, it is then safe to go straight to the objective point, provided the dissection is done by the finger, aided by counter pressure by the other hand through the abdominal walls. After the fluid is reached, the channel may be dilated, or, if this does not enlarge it sufficiently, a vertical incision in the middle line can be added to it, reaching short, of course, of the rectum or bladder. The cavity can then be packed or drained. It is the custom of the essayist, especially when there is much odor, to place a two-way tube, made by stitching two large rubber tubes together. The smaller, carrying in the solution, reaches to the top of the cavity; the larger drains its lowest parts. Both reach outside the vagina, and so permit a frequent irrigation (with mild antiseptics), with no disturbance to the patient or attendant, and sometimes requiring not even a bedpan. Several cases were reported.

Incision Less than One and a Half Inches in Appendicitis.

Dr. N. Stone Scott, Cleveland, said that the only possible objection to the incision less than an inch and one-half is the delicacy of touch required, and the substitution largely of touch for sight. Given the necessary tactile education, however, the advantages are the absence of liability to hernia, reduction of the period of convalescence, and the cosmetic effect. Several illustrative cases were detailed.

Obscure Cases of Gall-Bladder Disease.

Dr. Edward S. Stevens, Lebanon, said that in a large number of the obscure cases of gall-bladder disease there will always be more or less doubt as to whether the gall-bladder

and ducts are diseased at all. With a reasonable degree of certainty as to the location of the disease, there will always be more or less doubt as to the character of the disease, for there are other forms of disease which produce gall-bladder disturbance besides gall-stones and the inflammatory affections. In such cases, the symptoms not yielding to treatment, and being essentially chronic, it is eminently proper to advise an exploratory operation for the purpose of making certain the diagnosis. This may be advised in the first place because in the hands of one who is skilled in this work, the danger is *nil*. In the second place the propriety of such advice may not be questioned because the exploration is the first step to be taken in radical gall bladder operation, and most of the chronic gall bladder diseases require local treatment rather than medicinal if a permanent cure is to be effected. Even though an incurable malignant disease be discovered upon opening the abdomen, it is a great satisfaction to know what condition is present.

It has happened in many cases that relief followed the simple exploration, although the abdomen was closed with the knowledge that malignant disease of or near the gall bladder was responsible for the symptoms for which relief was sought.

The Address in Medicine, by Dr. R. A. Hare, Philadelphia, Pa., was upon the treatment of typhoid fever, the use of opium in diabetes, the treatment of aneurism, the treatment of pulmonary tuberculosis, burns, improvements in the methods of producing anesthesia, and the importance of recognizing the vaso-motor system as a factor in disease and in the production of disease.

Bilateral Paralysis of the Posterior Crico-arytenoid Muscles of the Larynx.

Dr. Albert Rufus Baker, Cleveland, reported a case in which tracheotomy was made to relieve dyspnoea due to paralysis of the posterior arytenoid-cricoid muscle. The patient now wears a tracheotomy tube constantly. Whenever a suffocative attack comes on, he pulls out the cork and normal respiration is immediately restored, he then replaces the cork and soon goes on about his work as usual. A few weeks ago the patient secured a life insurance policy for two thousand dollars in an industrial life insurance company. During the first year after the operation the patient had some difficulty in securing a satisfactory tracheotomy tube. To overcome all this, the metal tube was replaced by a soft rubber one, which was much more satisfactory.

Dr. P. J. Kline, of Portsmouth, reported a *Case of Cirrhosis of the Liver*. The patient did not present marked jaundice, and in many respects the case was anomalous. Thus, there was no distinct caput Medusæ, although the vessels over the abdomen were enlarged. He felt justified in excluding syphilis and alcohol as etiological factors in the case. Unfortunately, no post-mortem was secured.

Dr. Henry W. Bottman, of Cincinnati, read a paper on *The Clinical Importance of the Position of the Stomach*. In few cases do we find the stomach and other abdominal viscera in the position usually assigned to them by the textbooks. But many cases of displaced stomach, as well as of other viscera in the abdominal cavity, show no symptoms of disease or inconvenience therefrom. In many cases, in which unpleasant symptoms were traceable to such malposition, the essayist had found the patients were greatly relieved by wearing an abdominal supporter.

Intra-Cranial Complications of Aural Disease—Prognosis and Treatment.

Andrew Timmermann, of Columbus, referred to the frequency of intra-cranial complications of aural disease, and presented specimens illustrating the operation he would do for chronic aural trouble. It is difficult to say when a case is past redemption by operation. He had seen patients brought in in a state of coma, with very rapid pulse, temperature 105°, with stertorous breathing, the coma so deep that an anæsthetic was not required for operation, and yet the patient recovered. A last chance is nearly always given by the people who are interested, and these patients should have the benefit of a late operation.

Other papers were presented by—

Dr. C. F. Hoover, Cleveland, on *Functional Heart Murmurs*.

Dr. Philip Zenner, Cincinnati, on *Psychic Treatment of Disease*.

Dr. Yeatman Wardlow, Columbus, on *Movable Kidney*.

Dr. Hunter Robb, Cleveland, on *Irrigation with Salt Solution and Other Fluids in Surgical Practice*.

Dr. J. C. Oliver, Cincinnati, on *Removal of Cæcum for Malignant Disease*.

Dr. — Albers, Pulda, on *The Dyspeptic Stomach, and How Can We Secure a Speedy Cure?*

WESTERN OPHTHALMOLOGIC AND OTOLARYNGOLOGIC ASSOCIATION.

The third annual meeting, held in Chicago, April 7 and 8, 1898, seems to have been a great success. Dr. B. E. Friar, of Kansas City, Mo., President, in the chair. Dr. Herman Knapp, of New York city, contributed a Scientific communication which is well spoken of.

The Ophthalmologic and Oto-Laryngologic Sections each held five separate and two joint sessions, many articles of interest being read and discussed. The last joint session was occupied with the exhibition of clinical cases.

The following officers were elected for the ensuing year: *President*, Dr. J. Elliott Colburn, of Chicago; *Vice Presidents*, Drs. W. Scheppegrell, of New Orleans; Casey A. Wood, of Chicago; H. Gifford, of Omaha, Neb.; *Treasurer*, Dr. W. L. Dayton, of Lincoln, Neb.; *Secretary*, Dr. F. M. Rumbold, of St. Louis, Mo. *New Orleans* was unanimously selected for the next meeting, which will take place just before the Mardi Gras of 1899, thus allowing the members to conclude their scientific session with the gaieties of the Carnival season.

Analyses, Selections, etc.

Formalin and Formaldehyde.

Some interesting experiences are given in the report of the Academy of Medicine of Cincinnati, March 28, which we compile from *Cincinnati Lancel-Clinic*, April 30.

Formalin or *formol* is a forty per cent. aqueous solution of formaldehyde, or formic aldehyde. It is specially recommended as a substitute for corrosive sublimate in surgery—being more powerful as a germicide, and far less dangerous; it does not injure instruments, fabrics, etc. But if a concentrated solution is applied to the skin “a peculiar necrosis occurs that is unaccompanied by the usual signs of inflammation.” *Prac. Therapeutics*, Foster).

“The purely medicinal uses of formaldehyde have so far been few, though Rosenberg has given it internally in a solution of milk sugar, which he calls *sterisol*.” (*Amer. Year Book of Med. and Surg.*, 1898).

Dr. B. M. Ricketts reported a case of *sarcoma of the groin where there was pus*. Ten days ago, he used a two per cent. solution of formalin in the cavity, packed it with gauze, and there has since been no pus. He has now used formalin in three cavities with the same result—the

strength of the solution being *from one to five per cent.* It hardens the tissue, and the tissue that comes in contact with the solution will roll up, and you can lift it out. *In a case of erysipelas* which involved quite an extensive amount of tissue—almost the entire body—he used a *five per cent.* solution of formalin, saturated clothes with it, and spread over the affected areas, and the erysipelas disappeared within twenty-four hours. Some skins will stand formalin better than others; some will stand a five per cent. solution, and some will not. It is disagreeable to handle, since it hardens the cuticle of the fingers if you use a solution stronger than two or three per cent.; a five per cent. solution is objectionable on that account. It may be that a five per cent. solution produced the hardening in the pus cavity case referred to. But the pus disappeared and there has been none since. It acts just as a specimen immersed in formalin. He has never used it in the abdominal cavity.

Dr. W. B. Weaver remarked that literature on the subject affirms that formalin should not be used stronger than two and a-half per cent. on the skin since a stronger solution produces decided irritation and prevents the beneficial effect. In sterilizing urethral instruments, it acts effectively; but if the instruments are used before the formalin is thoroughly removed, considerable irritation is produced. A gum catheter had been sterilized with formalin but was not thoroughly washed off. An old stricture was so irritated by the formalin that remained in the catheter that considerable trouble resulted. But if we take the precaution to rinse off the formalin with which instruments are sterilized we will then have reached almost perfection in the selection of a sterilizing agent.

Dr. Kramer remarked that when Dr. Ricketts was speaking of using a five per cent. solution of formaldehyde, he was using only a *two per cent. solution of formalin*, since *formalin* is only a *forty per cent. solution of formaldehyde*.

Dr. Ayres remarked that formalin ought to be prominent with all doctors for preserving morbid specimens. Ever since his return from the Ophthalmological Congress, at Edinburgh four years ago, he has been preserving specimens in it. The cornea preserved in it does not change its color; and when you want to, you can make microscopical slides of the specimen. He uses a 1:5000 solution of formaldehyde in purulent inflammations of the conjunctiva, as also of the ear. If it smarts the conjunctiva, he reduces the percentage one-half by adding an equal quantity of water. The ear will stand stronger solutions. It is a remedy

that will be appreciated if it is more generally used.

Dr. Drury says that an author in a German journal used one drop of a forty per cent. solution in one hundred drops of water by injections *into the skin*—not under it—in a case of acne rosacea of ten years' standing, with the result of entirely restoring the normal condition of the skin. The redness of the face incident to that trouble entirely disappeared with a return of the normal whiteness of the skin. He injected *into the skin* from half a drop to a drop at a time.

Anilin Dye-Tests for Diabetic Blood and Urine.

Dr. G. A. Malsbary said (*Acad. Med., Cincinnati Lancet-Clinic*, April 30,) that since Dr. Bremer, of St. Louis, demonstrated the testing of blood and urine of diabetes by means of anilin dyes, he has been using them in all cases resembling diabetes that have come under his observation, and has come to place more and more reliance upon them. Dr. Bremer discovered a difference in the reaction of the urine to certain anilin dyes—namely, ethylene-blue and methyl-violet. Of these dyes, about gr. $\frac{3}{8}$ to $\frac{1}{4}$ is added to 10 c. c. of urine. Use a control tube of normal urine. The specific gravity of the urine to be tested should not be less than 1015, and its temperature 14°–15° Celsius. It is necessary that the test tubes contain no water, and that the dye be fresh, or at least in good condition. With these precautions, *diabetic urine is colored blue by ethylene-blue*, whereas the control specimen of normal urine will be colored green. *Methyl-violet colors diabetic urine violet*, whereas the control specimen will not dissolve the dye, and remains uncolored. This reaction does not seem to depend upon the presence of grape sugar in the urine, since methyl-violet is not dissolved by normal urine, to which a large amount of grape sugar has been added. However, should the grape sugar be in the form of the ordinary liquid glucose, there will be reaction, since this substance contains a certain amount of water, and, falling to the bottom of the tube, comes in contact with the dye and dissolves it—imparting a violet color to the urine. The same reaction is noticed when there is any water in the test-tube, since the dye is readily soluble in water. But with dry grape sugar, no reaction is obtained.

A diabetic patient had shown large quantities of sugar in the urine; but having been on a proper diet the sugar has now largely or altogether disappeared from his urine, so that the Nylander test is negative. But the Bremer

test with methyl-violet is positive, indicating that the patient still has diabetes—notwithstanding the apparent disappearance of sugar from the urine. The control specimen is not colored.

Long—the Discoverer of Anæsthesia.

Having long since become convinced that the honor of discovery of surgical anæsthesia belongs solely to the late Dr. Crawford W. Long, of Athens, Ga., it gives us pleasure to find our opinion confirmed by no less eminent an authority on subjects than Dr. George Foy, of Dublin, in the January-February number of *Janus*. As is well known, this bi-monthly journal, published in Amsterdam, is devoted to a review of international archives concerning the history of medicine and medical geography. Dr. Foy says:

Long, the Discoverer of Anæsthesia, is the subject of a very interesting sketch in the August-September *Bulletin of the Johns Hopkins Hospital*, of Baltimore, Maryland, America. It is contributed by Dr. Young, one of the Resident Surgeons of the Hospital, who had the good fortune to meet Dr. Long's daughter, Mrs. Fanny Long Taylor.

The Longs, of Georgia, were descended, like so many of the most successful Americans, from a North of Ireland emigrant, whilst as yet the Atlantic States were English Colonies. Like all his fellow-emigrants, from the North of Ireland, he brought the unspeakable gifts of industry, sobriety, and independence. Of such emigrants came the McDowells, the Jacksons, and the McGuires—names which have become familiar as household words South of the Potomac.

It is well to bear in mind this stock from which Long is descended, for it tells much in considering the mental traits and sterling sense of honor which characterized the man.

To understand the caution and diffidence with which Long suggested the abolition of pain by etherization to his friend, Mr. James Venable, the reader must think of his prototype, the cautious, industrious, contemplative North of Ireland peasant, who contends with a poor soil and a cold, harsh, damp climate; who, withal, despairs not, and by perseverance and untiring industry compels the earth to yield him support. This being understood, we can all recognize how natural it was for Long to test the anæsthetic properties of ether on every possible occasion before making known to the hamlet circle the great discovery he had made. Dr. Young might, however, have referred to this psychological factor in the object

of his biography. And it would have been well to point out that at the very time when Long was pondering on the properties of ether and questioning nature for an answer, that the fate of the unfortunate, learned, and accomplished physician, Dr. Elliottson, of the University College, London, had become common and known. It was a dreadful objective lesson. Elliottson, like Long, sought for an anæsthetic, and believed he found one, until he was rudely awakened from his dreams by the clear-headed Thomas Wakely, who pulled the mask from a pair of impostors.

The blow was too great for the poor dupe, and Elliottson's after career is one of the saddest pages in English medical biography. Elliottson, honestly seeking knowledge, saw, or thought he saw, what he so ardently desired.

Long's mind was too well balanced to fall into such an error, nevertheless his inherited prudence called for more and more evidence of the anæsthetic properties of ether until the possibility of error was eliminated; then he came forward, and, in the spirit of a Southern gentleman, and imbued with the feeling of the Great Physician, made known freely and fully, without any thought of self, the inestimable blessing of anæsthesia.

All this careful scrutiny of facts and testing of results is fixed upon by Long's detractors as evidence that he failed to see the discovery he made, and its beneficial effects on humanity, until Morton and the staff of the Massachusetts Hospital proclaimed it to the world — proclaimed that Morton's patent medicine "Lethon" was on sale. And all were invited to buy.

The New England Yankee was working a mine of wealth—all suffering humanity was to pay tribute to his rapacity. This audacious attempt called forth indignant protests, and amongst the most telling of these was that of Dr. Arthur Jacob, of Dublin, in his journal, the *Medical Press*.

Morton took all the necessary steps to secure a patent, but the court refused it—Long having produced anæsthesia with ether four years previously, and made it a free gift to the world.

How Dr. Long came to use ether, and the story of its earlier administrations, and the documents connected with them, are told by Dr. Young with great fullness from the papers and so forth preserved with loving care by Mrs. Fanny Long Taylor, and there is little left for any succeeding biographer to add; there are, however, some slight additions which may in-

terest the reader. Dr. Long was a personal friend of Alexander H. Stephens, and as such was heartily with the State-Right party, and, naturally, his friends in Washington were too much pre-occupied in demanding Southern rights to find sufficient leisure to unravel the claims of Morton and Jackson to the discovery of anæsthesia. As might be expected, Dr. Long declined to seek any favor from the enemies of his State and people.

His own people, however, recognized his claims, and the Georgian statutes in the Capitol are to Crawford, the statesman, and Long, the discoverer of anæsthesia. War came, the South was invaded, and the march of Sherman's bummers laid waste a tract of 30 miles in width throughout Georgia and the Carolinas; with their marching song of Halleluiahs they robbed and destroyed the homes of the defenceless women and children; nothing was sacred from these wretches; they were incapable of mercy, and knew not kindness. They made, as they were instructed to do, a desolation.

Dr. Long suffered with the rest of the people in Georgia. But it is a wonderful testimony to his skill and trustworthiness that after the war the U. S. Government, when they made Athens, Ga., a military station, appointed Long surgeon to the Military Hospital.

Loved by his people, he gradually made good his losses, and, at the end of a useful life, died, leaving to his family \$40,000, a sum which Dr. Young may think small in comparison to Northern fortunes, but one which can hardly be looked upon as poverty. Of Long, the world outside the Southern States would probably have known little if it were not for that accomplished Virginian, Dr. Landon B. Edwards, who induced Dr. Marion Sims to publish Long's biography, and illustrated it with the beautiful steel engraving (which Dr. Young reproduces) in his paper in the *Virginia Medical Monthly*.

The attention of the medical profession was again directed to the subject by another Ex-Confederate soldier and physician, Dr. Luther B. Grandy, Atlanta, Ga., who corrected Wilhite's story and added some new matter, and now Dr. Young gives, with a fullness never before attempted, all the literature which goes to support the claims of Dr. Crawford Long; and his paper cannot fail to interest all in the great discovery of anæsthesia.

Hematuria—Its Relation to Malarial Infection and the Ingestion of Quinine.

In a paper on the above subject, read by Dr. Bransford Lewis, of St. Louis, before the St. Louis Medical Society, strong testimony relating to the injurious or even fatal effect of quinine administered in cases of malarial hematuria was given.

A number of Southern writers were quoted to the effect that they had never seen a case of malarial hematuria recover in which quinine had been given, and that they had never seen one die in which quinine had not been given.

By personal inquiry and through records of cases reported in the journals during the last ten years, Dr. Lewis had been able to collect the records of four hundred and nineteen cases, of which two hundred and seventeen had been treated with quinine and two hundred and two without it. Of the 217 treated with quinine, forty-nine died and one hundred and sixty-eight recovered, giving a mortality of twenty-two and five-tenths per cent. Of the 202 cases treated with quinine, twenty-two died and 108 recovered, making a mortality of only ten per cent.—less than half as great as that of the quinine cases. But even these figures, the author thinks, do not represent the true difference of mortality rate between them, which is probably still more favorable for the non-quinine cases; because the non-quinine cases are based on records of treatment both with and without the drug, whereas the quinine cases are from writers who had only used the one (quinine) form of treatment, reporting favorable terminations but failing, no doubt, to report many fatal ones that had occurred in their practices.

Non-quinine treatment that had given the best results embraced the objects of elimination, support, and hemostasis without special regard to an anti-periodic effect.

First Meeting of the Medical Society of London, 1773.

To the Mellier Drug Company, St. Louis, proprietors of "Tongaline Preparation," etc., we are indebted for an engraving of the first meeting of the Medical Society of London, held in 1773, with portraits of some of the most prominent of its original members. This was probably the first important medical society ever organized. The president of this interesting assemblage is John Coakley Lettsom, a Quaker, the protege of Fothergill, and at his right is William Saunders, whose reputation has been handed down as an author; next to

him, Relph, the senior physician to Guy's Hospital; at Lettsom's left is Sir John McNamara Hayes, who had been made a baronet on account of his distinguished services as a surgeon; back of him, William Woodville, the author of a work on "Medical Botany." Among the others, we find Edward Bancroft, a naturalist; James Ware, the eminent surgeon and oculist; Thomas Bradley, the editor of the *Medical and Physical Journal*; Edward Jenner, who was at that time a very young man, had modestly taken a position in the background; Robert Hooper, who published a medical dictionary; Edward Ford, an eminent surgeon; John Haighton, the physiologist; Robert John Thornton, author of the "Philosophy of Medicine"; John Shadwell, a prominent physician himself, whose father had been the physician to the royal family, etc.

"Eclampsism," or Puerperal Eclampsia Without Convulsions.

At a recent meeting of the Obstetrical Society of France there was an interesting discussion on a condition that M. Bar proposes to call *eclampsisme*. In eclampsia, says Bar, the occurrence of convulsions is a capital feature, and it aggravates the prognosis very decidedly, but what needs to be made known is the fact that there are a good many cases in which no convulsions take place, but instead the patient is attacked by very intense neuralgia, mania, diarrhœa, or some other striking symptom. Such cases may prove fatal, and that speedily. M. Bar seems to have been the first to take cognizance of this condition, but his remarks on the occasion in question were called forth by the histories of two cases reported at the meeting by M. Budin (*Progrès Médical*, April 30th).

M. Budin's first case was that of a primipara, thirty-one years old, who had arrived at term and was brought to the Maternity on December 16th, 1897. She had prodromes of eclampsia, and there was a notable amount of albumin in her urine. She also had gastralgia, headache, disturbances of vision, and a cerebral condition which M. Budin simply called "singular," without describing it. She was delivered spontaneously of a living child, and the delivery was followed by hæmorrhage which, although the amount of blood lost did not exceed twenty-five ounces, called for artificial removal of the placenta. After this, the prodromes of eclampsia became more pronounced, her general condition grew worse, and, in spite of every care, she died in seven hours, without having had a convulsion. At

the *post-mortem* examination the characteristic renal lesions were found, and the liver presented ecchymotic spots having the geographical contours seen in cases of eclampsia.

The second patient also was a primipara, who continually had "oppression." At the time of her entering the Clinique Tarnier, on March 15th, she had albumin in the urine, visual disturbances, etc. She was considered to be in imminent danger of eclampsia, and was treated accordingly. She was delivered a week later without having had a convulsion, although at every instant one was expected to occur. The placenta showed patches of atrophy and numerous hæmorrhages, some old and others recent. This woman recovered.

It is of very great importance, says M. Budin, to observe the premonitory symptoms of eclampsia. Patients may have self-intoxication, he continues, and be found in a real state of eclampsia, without having any convulsive attack. Formerly, he adds, convulsive seizures were looked upon as the characteristic mark of eclampsia; they are still the cardinal feature in the majority of cases, but they are only one among numerous symptoms of self-intoxication; they are the most striking, but the others should not be overlooked, either from the diagnostic or from the therapeutical point of view.

An interesting contribution to the casuistics of the condition was made by M. Démelin, who related the case of a woman who had all the premonitory symptoms of eclampsia, but no convulsions. Jaundice soon supervened, however, with hæmaturia and hæmorrhage from the nose and the gums, so that the diagnosis of icterus gravis was made. The jaundice and the hæmorrhages ceased at the same time, and the patient recovered.

We can hardly doubt that M. Bar has drawn attention to a phase of the perils of child-birth which, if it has not been altogether overlooked heretofore, has at least not been generally appreciated. By so doing, he has certainly performed a service far greater than that resulting from most of the new operations that are invented in such profusion.—*N. Y. Med. Journal*, May 21, 1898.

Formaldehyde for Vaginitis in Children.

In a paper before the Wayne county Medical Society, Mich., Dr. I. L. Poloker claims (*Med. Age*, April 25,) for formaldehyde the best results in the treatment of vaginitis in children. He states that it is "efficient, safe and free from the disadvantages arising in the use of permanganate of potassium or silver nitrate."

Sanitary Notes Upon the Provinces of Pinar Del Rio, Havana, Matanzas, and San Clara.*

Through the courtesy of the Chief Surgeon of the Second Independent Division of United States troops in the field, Dr. Henry I. Raymond, Captain and Assistant Surgeon, United States Army, stationed at Camp Tampa Heights, Florida, is enabled to present to the readers of the *Medical News* (May 21) a full and reliable report, submitted by S. Cueroo, M. D., a Cuban physician of many years' professional experience in that country, upon the water supplies and the healthful or infected conditions of all important towns or localities throughout the four most westerly provinces of the Island of Cuba. The report by Dr. Cueroo is so succinct and important for our practical guidance in the event of the occupation of Cuba by United States troops, that we present it without abridgement.

HAVANA PROVINCE.

Havana.—All kinds of infectious diseases. Water supply contaminated.

Marianao.—Yellow fever, when imported; good supply of water.

Guanabacoa.—Same conditions; good water.

Guines.—Yellow fever, when imported; malaria; bad water.

Jaruco.—No yellow fever; good water.

Alquizar.—No yellow fever; malaria; good water from wells.

San Antonio de los Baños.—Yellow fever, when imported; springs and river water good.

Guanajay.—Yellow fever, when imported; malaria; good well water.

Bepical.—No yellow fever; good well water.

Guinca.—No yellow fever; good well water.

Santa Maria Bosano.—Very healthful city; no yellow fever; springs and good well water.

Santiago de las Vegas.—Healthful city; deep wells; good.

Guira de Melena.—No yellow fever; malaria; well water.

Batabano (south shore).—Very unhealthful; yellow fever, malaria, and typhoid fever; very bad water.

Aguacati.—Healthful place; well water.

Madrugá.—Very healthful locality; very good water; sulphur springs.

Nueva Par and San Felipe.—No yellow fever; well water.

Guava, Castatina, Melena del Sur, Hoyo Colorado, Camito, Guayabal, Guatao, Wajay.—No yellow fever; malaria; well water.

Bauia.—No yellow fever; healthful place; well water.

MATANZAS PROVINCE.

Matanzas City.—Yellow fever and all kind of infectious diseases. Contaminated water.

Unión de Reyes.—No yellow fever; well water.

Suba Mocha.—Healthful locality; deep wells; good water.

Sabonilla.—No yellow fever; malaria; well water.

Cardenas (Dr. Menvial).—Twenty-five thousand inhabitants; has two classes of water supply: from wells which are almost all contaminated, and from the town's reservoir, supplied by a spring, but this spring water is heavy and very sedimentous or incrustant, and is but slightly palatable. Many people there drink rain water.

Malarial locality in autumn; dysenteric in summer. Yellow fever prevails there every year from June to October. Many cases of diphtheria and sore throat in dry season on account of the dust. The soil is very permeable and the material of the macadam is very fragile. In time of gripe, this disease spreads very rapidly, because the dust forms clouds throughout the whole town.

Recreo.—Situated fifteen miles southeast of Cardenas; has four or five thousand inhabitants; low and red earth; paludic region; dysenteric in summer; no yellow fever except when imported; all the zone between the two places is very low, marshy, and swampy; somewhat malarial; travel almost impracticable by horses. San Anton River and what is called the "Canal of San Anton" (by which the inundation of "El Roque" empties its waters into the bay of Cardenas) are the water channels of this district.

Hato Muevo.—Situated about fifteen miles east northeast of Recreo; has two thousand inhabitants. A range of uninterrupted mountains, fifteen miles long, divides this section of country into two zones; one in the southern part, higher, has many wells; some of them of good quality as to their water, and about ninety feet deep; without rivers in all the extension of this zone. The northern part, in which is situated Hato Muevo, is supplied from wells whose water is contaminated; these wells become filled up with water, usually in the summer season after heavy rainfalls. We have in this northern zone, malaria and dysentery, but never yellow fever. That part of the zone south of Cardenas is deprived of rivers and we have very few springs.

The Cuban physician furnishing this information on Matanzas Province has practiced medicine for nine years in the zones above-mentioned and extending from Cardenas to

*The facts herein contained are based upon the personal knowledge and experience of Cuban physicians.

Colon, and is therefore well qualified to speak *ex cathedra*.

PINAR DEL RIO PROVINCE.

City of Pinar del Rio, Consolacion del Sur, Paso Real de San Diego, Palacios, San Cristobal, Candelaria.—Yellow fever only when imported; water good. All these cities are located in the southern plains of the province; more or less malarial localities.

Cabanas, Bahia Honda, and Mariel.—On the south shore; are very malarial; no yellow fever. All small localities in the hills are quite healthful and well supplied with good water.

SANTA CLARA PROVINCE.

The territory of "Sancti Spiritus," located in the central and southern part of Cuba, is very abundant in spring water, of excellent quality for drinking purposes. One can rest assured that within a circumference of four miles in the greater part of this territory, a stream of water can be found. The territory forms an inclined plane that gradually rises from the southern coast with an occasional abruptness. It extends from southeast to northwest, forty-eight miles; from northeast to southwest, seventy-eight miles; from north to south, sixty miles.

The principal city, Sancti Spiritus, with fourteen thousand inhabitants, is thirty-six miles from Tunas de Laza, the port of entry, and is 570 feet above the level of the sea. A railroad runs between these two places, making four different stops on the road at as many villages.

Tunas de Laza, the port of entry, has only rain water, but the railroad crosses one river and five streams of very good drinking water.

The city (Sancti Spiritus) is divided by the Yayabo River, and its water is supplied to the inhabitants through iron pipes; there is also a small stream to the east of the city; one mile east and west of the same city there are found two other streams; all of these streams have very good water.

Leaving the city of Sancti Spiritus at any point of the compass, about every four miles good and abundant water can be found in all this territory.

This section of country continues rising toward the north and more so toward the west, terminating in mountains, some of which rise about 9,000 feet, giving rise to many streams.

The principal rivers are: The *Laza*, navigable twenty-one miles; traverses the whole territory from north to south; its waters are good up to six miles south of the city of Sancti Spiritus.

The *Jatibonico del Norte* and *Jatibonico del Sur* have very good water; these two rivers form the eastern boundary of the territory; both rise from the same spring, one following north and the other south.

The *Tuinucu*, quite deep, rises in the mountains in the west from the same source as the Yayabo. The *Banos* rises also in the mountains and flows south into the sea, twelve miles to the west of Tunas de Laza; near the coast this river is known as the *Tayabacoa*. The *Higuanojo* rises also in the mountains and flows south into the sea, eighteen miles west of Tunas de Laza. This river forms the territorial boundary to Trinidad.

In the country lying between these rivers are innumerable springs, all of excellent water.

The climate is not excessively damp on account of the excellent drainage due to the gradual slope of the land. All the rivers have many good fords, except the *Laza* and *Tuinucu*, which in the rainy season are impassable for some days. To the east of this territory water is less abundant.

This territory suffers from yellow fever only when that disease is imported by Spanish troops, and at various times eight years in succession have elapsed without a case. The vegetation is luxuriant and woods are plentiful. The maximum temperature is about 95° F., and the minimum 45° F. No typhoid fever or diphtheria.

This short account of the Sancti Spiritus' waters and its excellent territorial conditions as to climate and healthfulness is very refreshing to one's mind after contemplating the plague-stricken cities along the shores of the more westerly provinces.

Danger of Error in Diagnosis Between Chronic Syphilitic Fever and Tuberculosis.

Dr. E. G. Janeway, of New York, briefly reported a number of cases during the session of Association of American Physicians in Washington, D. C., May 3-5, 1898 (*Med. Med. Jour.*, May 21, 1898). One case was a young man who had been sent to a sanitarium for consumption. He continued to grow worse, came to him, and an examination revealed syphilis. No tuberculous symptoms could be found, and hepatitis had been the cause of his ill-health. He promptly recovered under treatment. In one case there was fever, sweating and pain in the side, and he had been advised also to go to the country on account of supposed case of tuberculosis of the right lung, but a later examination showed two ribs to be diseased, and a small sinus was apparent. Anti-syphilitic

treatment removed this trouble. He instanced several cases of this kind; one case in which a prominent physician had made a diagnosis of tuberculosis when no such lesion existed. In one case of a young child he suspected syphilis, but was persuaded into believing it a case of tuberculosis, and sent it to the hospital for treatment. The child died and the autopsy revealed the true condition. The specialist may be able to recognize these cases, but it must be remembered that the majority of them fall into the hands of the general practitioner. In obscure cases of apparently tuberculous miliary sepsis syphilis should always be borne in mind as to the possible cause.

Dr. I. E. Atkinson, of Baltimore, said nothing shows more clearly the want of accurate attention on the part of the medical profession than this very frequent presence of syphilis, complicating all sorts of obscure conditions. It should be looked for. This is especially true in the class of cases referred to. The disease may simulate continued fever, although fever may be remittent in character, which may make us suspicious. He referred to a sailor in a hospital, from Calcutta, who had an enlarged liver and a severe cough, but no tubercle bacilli could be found. Albumen and casts were both present. He denied having syphilis, and hepatic abscess was suspected, and he was aspirated several times without result. The plasmodium of malaria was looked for, but not found. His right testicle began to enlarge. He was given iodide of potash, and in three or four days he had no fever and recovered entirely. It is in the late cases in which the fever is apt to be obscure.

Dr. Meltzer, of New York, said that Hansemann reported a number of apparent cases of tuberculosis in which no tubercle bacilli were present, and which recovered under the use of iodides.

Dr. F. P. Kinnicutt, of New York, said that many had seen the presence of syphilis at the autopsy when they had not suspected it during life, and he also described some cases.

Dr. Charles G. Stockton, of Buffalo, said that an examination of the blood may assist in the diagnosis, and said a tuberculin test might be used to advantage in these cases.

Dr. V. C. Vaughan, of Ann Harbor, said that the two affections might exist in the same person, and in many cases would give considerable trouble. The temperature curve is greatly different from that in tuberculosis. The finding of bacillus of tuberculosis would confuse us.

Dr. James Tyson, of Philadelphia, thought

that the use of anti-syphilitic treatment would make the diagnosis for us.

Dr. Janeway said he had examined the blood for the plasmodium and leucocytes; the tuberculin test was not used. The anti-syphilitic treatment furnished the test and produced a cure. In some cases it is extremely dangerous to use the tuberculin test, and he mentioned a case in which such bad results had been brought about that the patient could hardly be induced to keep from suing the physician for malpractice. He had seen the two diseases in the same person. He used iodide of potash and bichloride of mercury in combination with cinchona.

Dr. E. G. Cutler, of Boston, referred to a case in which tuberculin gave the characteristic reaction when no tuberculosis was present.

Hydrastis Canadensis for Hæmorrhages in Hemorrhoids, Tuberculosis and Dysentery; Metrorrhagia, Fibromata.

In the *Indépendance Médicale* for April 17th, (according to *N. Y. Med. Jour.*, May 21st), M. Marini, of Bagdad, relates his experience with this drug in the treatment of hæmorrhage in cases of hæmorrhoids, tuberculosis and dysentery, and states that he has obtained remarkable results. He cites several cases of hæmorrhoidal hæmorrhage, of which the following is an example: The patient was a native of Bagdad, who had suffered from hæmorrhages for more than fifteen years. At each discharge he lost a good deal of blood, and sank into a condition of syncope, from which it was difficult to restore him. The author practiced hypodermic injections of ergotine in the affected region, but the hæmorrhage persisted, and finally he resorted to the following mixture:

R.—Fluid extract of hydrastis canadensis 60 grains.
Sweetened distilled water.....3.5 ounces

A dessertspoonful of this was taken every hour during the day. To this mixture, thirty grains of Bonjean's ergotine may be added without inconvenience. The blood ceased to flow a few hours after its administration, and its employment was continued for ten consecutive days. There has been no return of the hæmorrhage since then.

In cases of alcoholic excess, it is more difficult to control the hæmorrhage, and a slight loss of blood may continue after the employment of the drug, although it is insignificant in proportion. Alcohol seems to be an active and injurious agent in causing the return of hæmorrhages of this character, and it should

be absolutely prescribed, otherwise the patients are exposed to dangerous relapses.

Regarding the good effects of this drug in tuberculous hæmorrhages, the author concludes that it is the best pulmonary hæmostatic. Huchard's observations confirm this. Concerning hæmorrhages of dysentery, twice he has been enabled to completely suppress them with this drug after all other measures had failed.

He calls attention particularly to the favorable and almost invariable effect that hydrastis exercises on hæmorrhoids, whether internal or external. This product possesses generally an indisputable elective action of constriction in the various forms of chronic phlebitis; it is at the same time a very energetic vaso-constrictor and a tonic for the veins. This action was almost constantly met with by the author in cases in which he used the hydrastis to combat hæmorrhage. Strangulated or irreducible hæmorrhoids are reduced with the greatest facility. In cases of this nature, the action of the drug is rapid and sure, more so than that of ergotine. Under its influence, the hæmorrhoids become diminished in size, and disappear after the treatment has been sufficiently prolonged.

M. Marini observed also that the hydrastis sharpened the appetite, strengthened the enfeebled powers and the tissues, increased the respiratory movements, hastened organic assimilation, and restored the gastric functions.

This product has one inconvenience, that of slackening the cardiac beats when it is administered in large amounts—that is, from sixty to ninety grains a day—and it is therefore contraindicated in persons with a permanent slow pulse and in chronic cardiac affections.

M. Marini employed this drug many times as an oxytocic, and found that it was not so rapid in its action as quinine, but he always used it without the least danger in the following formula:

R.—Fluid extract of hydrastis canadensis 60 grains.
Sodium salicylate..... 38 grains.
Sodium borate..... 45 grains.
Sweetened distilled peppermint water..... 3.5 ounces

M. S.—A dessertspoonful, to be taken every half hour until labor occurs. At the same time, two of the following capsules are to be taken every fifteen minutes:

R.—Quinine sulphate..... 15 grains.
Pure caffeine..... 12 grains.

M.—Make six capsules.

With the employment of these prescriptions

labor is hastened and occurs under the best possible conditions. The *post-partum* hæmorrhage becomes less abundant, and there is less danger of vascular trouble.

Many writers have testified to the good effects of hydrastis in the different forms of metrorrhagia, recognizing its indisputable and most decided action in uterine hæmorrhages. M. Marini maintains that it is the preferable remedy in the hæmorrhages of fibromyomas, and that it is the best means of combating the hæmorrhages of pregnancy at any stage, provided it is taken at sufficiently prolonged intervals—that is, 20 drops every three hours or four times a day.

In conclusion, M. Marini lays down the following principal indications of the drug in question: 1. *Hydrastis canadensis* administered at any stage during pregnancy, in amounts of from one hundred to two hundred drops a day for several consecutive days, has no dangerous action on the mother or on the fetus; it is the same when it is given during labor. 2. Administered either during pregnancy or during labor and delivery, as well as afterward, it exercises an invariable hæmostatic, curative and prophylactic action on the uterus, without exercising any ebolic action on the uterine muscle or moderating the contractions. 3. It is a therapeutic substance which is very valuable in obstetric practice, and is certainly superior to ergot of rye; it does not present the inconveniences of the latter, and may be administered freely either as a curative or as a prophylactic in the metrorrhagias in all stages of pregnancy, labor or delivery, and during the puerperium; it is also a much safer remedy in the hands of midwives than ergot of rye.

Fever—What Is It ?

Dr. J. M. Fort, Paris, Texas, in a paper read during the April, 1898, session of the Texas State Medical Association, (of which he is a Vice President), said: It was my purpose in this paper to show that, instead of the combustion or oxydation of material entering, or such as are eliminated from the animal economy, being the cause of animal heat and fever, that the true cause lies beyond and below this combustion or oxydation, in the antecedent atomic molecular and cell agitation, which agitation not only gives rise to the combustion as a necessary sequence, but which is, indeed, the root or prime factor of abnormal heat or fever in the animal economy. Also, to show that fever is not a destructive process, as generally considered, but an eliminative process, curative in character.

Book Notices.

Diseases of the Stomach. By WILLIAM W. VAN VALZAH, A. M., M. D., Professor of General Medicine and Diseases of the Digestive System in New York Polyclinic Medical School and Hospital, and J. DOUGLAS NISBET, A. B., M. D., Adjunct Professor of General Medicine and Diseases of the Digestive System in New York Polyclinic Medical School and Hospital. Illustrated. Philadelphia: W. B. Saunders. 1898. 8vo. Pp. 674. Cloth. \$3.50 net.

Beside the "Introduction and Classification" of diseases of the stomach, there are five other sections—two of which are devoted respectively to "Diagnosis and Diagnostic Methods" and to "General Medication." The next section, beginning on page 262, is on "Dynamic Affections of the Stomach;" while section V treats of the "Anatomical Diseases of the Stomach." Section VI is given up to a consideration (1) of the "Stomach in the Causation of Disease" in other parts of the body; and (2) of the "Secondary Diseases of the Stomach." This latter section is of very special interest to the general practitioner—helping him both in matters of diagnosis and in suggestions which would lead to suitable prescriptions.

One is struck with the radical change in nomenclature when he opens this book. Familiar names which heretofore have been expressive of something like an entity to the mind of the physician, are wiped out—"Old things have passed away and all things have become new." For instance, to quote the authors, "The word 'dilatation' [of the stomach,] like the word 'dyspepsia,' has no precise meaning, and embodies false notions. These words impede medical progress and should become obsolete." Hyperchlorhydria and hypochlorhydria are hereafter to be technically studied under the names of *adenohyperæsthenia gastrica* and *adenæsthenia gastrica*. Whether or not such radical changes in nomenclature will help the good old country practitioner, who has long been in the habit of tracing signs and symptoms to their foundation cause, we are not prepared to say. We are a little afraid, however, that the authors in so completely and suddenly rendering obsolete such familiar terms, and introducing terms in their stead which require some little knowledge of Greek to understand, will themselves, for a season at least, "impede medical progress." It is not that we object to the education of the profession up to the highest standard of

scientific perfection in nomenclature, but we fear the wrong means have been adopted. Familiar synonyms should certainly be admitted in order the more easily to teach. Every one in the village town well knows "Jack Jones," whereas it might be a little difficult to identify *John Jones* until one is reminded that "*Jack*" is the person referred to. Don't be too radical all at once. It does not destroy the fragrance of a rose to call it by another name. But it might *impede progress* not to use the familiar name along with the technical one.

We have not written this to detract from the merits of the book itself; for unquestionably it is about the best book published on "diseases of the stomach." It includes details of a good deal of original work and observation, while it also presents the latest of the best work of other laboratory workers and clinicians. The various sections on diagnoses are complete and conclusive. Beyond these divisions of chapters, and the excellent ones on rational treatment, the section on the "Vicious Circles of the Stomach" is extremely valuable, and will prove helpful to many a doctor in his effort to trace effect to cause. While admitting that the stomach "*frequently becomes diseased secondarily*," the authors affirm that "the vicious circles established between the stomach and the other important organs of the body *seldom*, in comparison, *begin in the stomach*." They "strongly oppose" the commonly adopted "theory which makes the diseased stomach an all-important disease factory." As to the therapeutics of the work, we must recognize that most of the recommendations are well sustained by experience and observation. Perhaps the authors are a little too severe on chemical antisepsis, in their remark that "this method of treatment ordinarily deserves all the condemnation which can be heaped upon it." "For the safe and efficient removal of the germs" which places the stomach in position to perform its functions unmolested, "there is no method comparable to stomach-washing."

To Expel Tape-Worm.

A *Medical Summary* writer directs: One drop of croton-oil, dissolved in thirty drops [about fifteen minims] of chloroform, and one ounce of glycerine, given at night on an empty stomach. Follow this in the morning by a sufficient quantity of castor-oil to purge well, and the tape-worm—head and all—will come out with the purgation.

Editorial.

The Denver Meeting.

The following arrangements have been made for the Denver meeting of the American Medical Association, to be held June 7-10, 1898.

Section Dinners will be given June 7, at 7:30 P. M., and social entertainments will be given on other evenings during the week.

Ladies' headquarters will be at Unity Church, where they will be received by the wives of physicians of Denver. Arrangements have been effected for their entertainment during their visit, and committees will escort the visiting ladies to the various points of interest in Denver.

On Friday, June 10th, a complimentary excursion to Idaho Springs and around the loop will be given by the Colorado State Medical Society. At Idaho Springs, the Association will be entertained by the citizens.

On Saturday, a complimentary trip will be made to Colorado Springs under the auspices of the Committee of Arrangements. At Colorado Springs the Association will be entertained by the local physicians and citizens. Visits will be made to all points of interest in the vicinity. Arrangements will be made for trips to Pike's Peak and the celebrated mining camp of Cripple Creek at low rates of fare.

At a date to be determined, special trains for Glenwood Springs will leave Colorado Springs via the Denver and Rio Grande Railroad and the Colorado Midland Railroad. Tickets \$5.00, good going via one railroad and returning the other, and for ten days from date of issue.

The trip to Glenwood is one of the most attractive in Colorado, giving excursionists a view of some of the finest scenery in the Rocky Mountains, including Pike's Peak, Ute Pass, the Valley of the Arkansas, Hagerman Pass, Canons of the Roaring Fork and Frying Pan, Canons of the Grand and Eagle Rivers, Tennessee Pass and the Royal Gorge of the Arkansas and passing through the cities of Pueblo, Leadville, Canon City and Florence.

Special Hotel rates will be given by the Hotel Colorado and other hotels of Glenwood Springs. The springs, baths and swimming pool will be free to the Association.

Special cars will be hauled on the Colorado Springs train and the Glenwood Springs Special, only when handed to the railroads with their full capacity.

RAILROAD RATES.

As previously announced, the Western Pas-

senger Association (including all lines running between Chicago and Denver) has granted a rate to Denver and return of one-half fare, plus \$2, thirty day limit, for business from Chicago, St. Louis and intermediate points. Tickets on sale June 2, 4 and 5 east of the Missouri River; June 5 and 6 west of the Missouri River.

The same rate is announced by the Frisco Line, the Missouri, Kansas and Texas Railway and the Fort Worth and Denver City Railway.

The Central Passenger Association have agreed to adopt the rate of the Western Passenger Association throughout the territory covered by their lines, and formal announcement is expected shortly.

From Ogden and Salt Lake, the round trip rate of \$20, thirty-day limit, will be in force.

The rate of one fare for the round trip from the common points, Pueblo, Colorado Springs, and Denver, to points in Colorado is also announced.

Excursion tickets to Salt Lake and Ogden will be on sale at Denver on the closing date of the meeting and on the two days following, good to return twenty days from date of sale. Stopovers will be allowed within a transit limit of ten days. Rate \$18.

Rates over other lines will be announced as soon as determined.

Route to American Medical Association in Denver.

In answer to many inquiries as to the best route to the American Medical Association in Denver, June 7-10, so far as District of Columbia, Virginia and Eastern North Carolina are concerned, the Chesapeake and Ohio offers by far the best rates. From Richmond, Va., to Denver and return, on account of this Association Session, the round trip ticket will cost only about \$45. This is just about the usual fare one way. Rates from other points along the Chesapeake and Ohio Railway will be correspondingly cheap. This is the most direct route via St. Louis, and passes through a country rich in grandeur of scenery. It seems superfluous to speak in praise of the service on this line, for it cannot be excelled. The trip from Richmond to St. Louis—about 1,100 miles—is made in twenty-nine hours. On reaching St. Louis, the best route to choose is the Missouri Pacific and Union Pacific railways—without change of cars to Denver, a distance of about 1,100 miles also. What is known as the "Chutmuck Special" will leave St. Louis at 9:15 P. M., Saturday, June 4th, and arrive at Denver at 7 A. M., Monday, June 6th. This

"Special Chutmuck" will consist of Pullman sleepers—compartment and buffet—dining and reclining chair cars. This train will be vestibuled throughout, thus absolutely avoiding all dirt and dust. The cost will be for *round trip* from St. Louis, \$26.50, which is only one lowest first-class fare, plus \$2. Parties who take the "Chutmuck Special" can return by another route, which gives opportunity of seeing the Trans-Mississippi and International Exposition at Omaha. Berth from St. Louis to Denver, \$5.50. The General Passenger and Ticket Agent, Mr. H. C. Townsend, St. Louis, will send circulars and replies to all questions about the Missouri Pacific Railway.

Beside the scientific treats of the Association itself, the profession and citizens of Denver have planned the most elaborate pleasures for the visitors—committees of ladies, even, being designated to take good care of the ladies who may accompany the visiting doctors.

It is not probable that there ever again will be offered an opportunity to visit points of interest in Colorado and other States at so moderate a cost as this trip, or at a time when the hand of hospitality can be so liberal as now. A trip to Europe costs many times more, and the return is not half so profitable as the instruction derived from this trip through our own country.

DENVER TO SALT LAKE CITY EXCURSION.

The *Medical Excursion* in June will leave Denver for Salt Lake City—the Zion of the New World—on the last day of the meeting of the American Medical Association and the two successive days, via the Rio Grande Western Railway, in connection with the D. and R. G. and Colo. Mid. lines. The rate will be but \$18 for the round trip, offering a trip of 1,500 miles through the Rocky and Wasatch Mountains. No European trip of equal length can compare with it in grandeur or wealth of novel interest. Salt Lake City and vicinity is one grand sanitarium. The Great Salt Lake or Dead Sea of America, with its magnificent bathing resort, the Hot and Warm Springs, drives, parks, canyons and reserves are all located in or about the city. Send two cents to F. A. Wadleigh, Salt Lake City, for copy of pamphlet.

Coal-tar Preparations and Belladonna Antagonistic.

It is claimed that coal tar preparations and preparations of belladonna and its derivatives are antagonistic. If either be taken and the other given soon afterwards, delirium will result at once.

University College of Medicine, Richmond, Va.—Graduates, 1898, etc.

During the Session just ended, there were 284 matriculates. The closing exercises were held last night (May 26th). It was a matter of common regret that the President, Dr. Hunter McGuire, was not present on account of sickness. In his absence, diplomas of graduation were awarded by the respective chairmen of the Faculties of Medicine (Dr. Landon B. Edwards), of Dentistry (Dr. L. M. Cowardin), and of Pharmacy (Mr. Turner A. Miller).

The following were the forty-nine graduates as—

DOCTORS OF MEDICINE.

Silas Edwin Akers, Carthage, Va.
 Emile Parke Amiss, Harrisonburg, Va.
 W. Carthon Archer, Beaver Pond, Va.
 Philip W. Boyd, Jr., Winchester, Va.
 Merwin C. Branch, Richmond, Va.
 Alexander Gustavus Brown, Jr., Ashland, Va.
 Hawes Campbell, Enfield, Va.
 Robert E. Chumbley, Churchwood, Va.
 Edwin B. Claybrook, Kinsale, Va.
 Wm. S. Collins, Highland Springs, Va.
 Wm. James Cowardin, Richmond, Va.
 Bernard Heath Early, Hillsville, Va.
 Leverette S. Early, Jr., Ewington, Va.
 G. Oliver Emerson, Leatherwood, Va.
 Robert E. Fortune, Abingdon, Va.
 Wm. Fountain, Tarboro, N. C.
 John R. Garrett, Norfolk, Va.
 George Othella Giles, Roanoke, Va.
 Patrick Lamb Gordon, Norfolk, Va.
 Edwin G. Hank, Norfolk, Va.
 E. H. Henderson, Wabash, Va.
 B. L. Hillsman, Richmond, Va.
 Robert E. Hollingsworth, Mt. Airy, N. C.
 Paul W. Howle, Stony Creek, Va.
 Thomas J. Hughes, Chatham Hill, Va.
 James T. Jarrett, Roanoke, Va.
 Wm. A. Jeffress, Finchley, Va.
 George W. Kennedy, Waycross, N. C.
 Charles W. Lemon, Longdale, Va.
 Clyde E. McDonald, Warm Springs, Va.
 W. H. O. McGeehee, Richmond, Va.
 Walter P. Miller, Newport, Va.
 Frank B. Olhausen, Harrisonburg, Va.
 W. B. Robertson, Jr., Plasterco, Va.
 Cornelius J. Seay, New York City.
 Thaddeus W. Shore, Booneville, N. C.
 Wm. O. Smith, Viola, Va.
 Teackle Jacob Smith, Franktown, Va.
 Thomas M. Taylor, Richmond, Va.
 Wm. M. Thompson, Goggensville, Va.
 Ernest M. Thrift, Madison, Va.
 Archilles L. Tynes, Tazewell, Va.

Levi Albert Walker, Anderson, N. C.
 Edmund C. Watson, Roanoke, Va.
 Hilary T. Willis, Rapidan, Va.
 Wm. D. Willis, Richmond, Va.
 Edgar Worthington, Doylestown, Pa.
 Austin Flint Wood, Moorman's River, Va.
 John Alexander Wright, Lynchburg, Va.

The following were the ten graduates as—

DOCTORS OF DENTAL SURGERY.

Wm. H. Arthur, Deanes, Va.
 Joseph M. Brooker, Williston, S. C.
 Owen E. Driscoll, Louisa, Va.
 James R. Edmundson, Leechburg, N. C.
 Lawrence S. Folkes, Jr., Achilles, Va.
 Robert E. Hamlet, Pamplin, Va.
 Joseph B. Lane, Leggett, N. C.
 W. S. Lovelace, Rodden, Va.
 Foushee O. Mooklar, Mangohick, Va.
 Edward A. Perry, Littleton, N. C.

The following were the four

GRADUATES IN PHARMACY.

Clyde A. Barnes, Ashland, Va.
 Hugh W. Jones, Williamsburg, Va.
 Warren A. Keeling, Keysville, Va.
 E. Edward Walker, Broadnax, Va.

Dr. Stuart McGuire announced the following annual

HOSPITAL APPOINTMENTS:

St. Luke's—Dr. W. B. Robertson and Dr. P. L. Gordon.

Virginia Hospital—Dr. A. F. Wood.

Retreat for the Sick—Dr. C. W. Lemon.

City Almshouse—Dr. A. G. Brown, Jr.

Sheltering Arms—Dr. C. E. McDonald.

Richmond Eye and Ear Infirmary—Dr. P. W. Boyd, Jr.

The Proctor of the University, Dr. J. Allison Hodges, then introduced Dr. J. Herbert Claiborne, of Petersburg, Va., who delivered a well-timed *Address to the Graduates*, which was delivered in his usual impressive manner.

After the programme at the Academy of Music was over, the Faculty and Graduates and Invited Guests repaired to "The Jefferson," where, until the early hours of the morning, a banquet was enjoyed, and toasts were spoken—Dr. George Ross, Emeritus Professor of Obstetrics, serving as toast-master in his happiest, inimitable way.

During the midday hours of Thursday, the *Alumni Association* held its Annual Session, during which the *Class of 1898* presented to the University College of Medicine a life-size oil painting, true to life, of Dr. Thos. J. Moore,

late Professor of Clinical Medicine, who died February 24, 1898.

The subject for discussion was *Epidemic Cerebro-Spinal Meningitis*, Dr. J. Allison Hodges, Professor of Nervous Diseases, being the leader. We hope to have fuller reports of the paper read and the discussion following.

The Sixth Annual Session will begin October 1st, 1898, and conclude May 11th, 1899.

Naval and Army Ambulance Ships.

Acting upon the suggestion of the former Surgeon-General of the Navy, Dr. J. Rufus Tryon, that an ambulance ship should form a part of a fleet in active service, the U. S. Naval Department has bought the *Creole*—one of the Cromwell liners. It is now at the Newport News shipyard, where it is undergoing such changes as will best adapt it to the purposes of a floating hospital—as nearly as possible in keeping with the plans proposed for such a vessel by Surgeon-General Van Reyepen, in a paper read at Moscow before the late International Medical Congress. His idea is that the hospital ship should carry several steam launches and as many barges—"each barge arranged with a flying floor between the thwarts so as to conveniently carry twelve cots on the floor." "As soon as the action is over, a launch should tow its barge alongside a vessel that has been in action, the wounded should be hoisted out and into the barge, and should then steam away with all dispatch to the ambulance ship, unload its human freight, and speed away again on its mission of humanity." As soon as the *Creole* is ready, it will be assigned to duty with the Atlantic squadron now at Key West. While it is not presumed that in this day of warfare, any shots will be fired by any civilized nation upon a hospital boat, properly designated by its colors and manœuvres as such, still such is the range of cannon and the probable changing of positions of battleships and cruisers in action that the hospital boat must of necessity be kept a couple of miles or more away. Of course a full head of steam will be maintained all the time, so as to approach the vessels of its fleet as rapidly as possible when needed. It is said that the speed of the *Creole* is sufficient for her to be constantly with the fleet. Other floating hospitals will, no doubt, be provided as the demands of the service may require.

In addition to the naval ambulance or hospital ships, the U. S. Army will have a *hospital ship*. Col. Kimball, at New York, has been authorized to select a suitable steamer, and immediately equip it as a *floating hospital*, with 500 beds, and filled with modern appliances

for surgery. It will be located at a convenient Cuban port. If the necessity arises to convey the sick or wounded of the army to Key West or Tampa, this ship can be used for that purpose. Army medical officers will be on board, with hospital stewards of the Service, and such volunteers as may be necessary.

Surgeons of Virginia Commands Being Mustered into U. S. Service for the Cuban War.

The Examining Board for Surgeons and Assistant Surgeons of the several Virginia commands called into the service of United States on account of the War declared by the United States against Spain April 19, 1898, consists of Major G. W. Adair, Surgeon U. S. Army; Dr. Charles V. Carrington, Richmond, Va.; W. S. Sayers, Norfolk, Va.

This Board held its first session for examination of Surgeons and Assistant Surgeons, chosen by the several Virginia commands to serve with them, May 4th, in the State Library Building. The examinations were very brief, and not physical.

The quota call from Virginia was for about 2,850 volunteers. Why the First Virginia Regiment as a whole, representing a greater part of the soldiery of Richmond city, was not called out, we do not know. But it seems that the call for the Second, Third, and Fourth Virginia Regiments of Volunteers fully satisfies the maximum number of soldiers demanded from the State. Several companies of the First remain subject to future call.

The medical officers of the several regiments who have passed examination are:

Second Virginia Regiment—Dr. C. E. Peyton, Pulaski, Va., Surgeon, with rank of Major.

Dr. R. G. Simmons, Roanoke, Va., Assistant Surgeon, with rank of Captain.

Dr. R. E. Caldwell, Wytheville, Va., Junior Assistant Surgeon, with rank of First Lieutenant.

Third Virginia Regiment—Dr. William M. Smith, Alexandria, Va., Surgeon, with rank of Major.

Dr. W. E. Anderson, Farmville, Va., Assistant Surgeon, with rank of Captain.

Dr. Frank Camm, Lynchburg, Va., Junior Assistant Surgeon, with rank of First Lieutenant.

Fourth Virginia Regiment (examined May 5th)—Dr. C. R. Vance, Norfolk, Va., Surgeon, with rank of Major.

Dr. W. L. Old, Norfolk, Va., Assistant Surgeon, with rank of Captain.

Dr. Charles Peed, Portsmouth, Va., Junior Assistant Surgeon, with rank of First Lieutenant.

The above named Surgeons and Assistant Surgeons have been sworn into service, and have returned on leave to their respective homes, but will soon return to Richmond, and be quartered at Camp Lee, when their several commands come to the city. Their duty while at home will be to conduct physical examinations of the men who are offering to be mustered into service.

We have not yet heard who Major-General Fitzhugh Lee will appoint on his Staff as Medical Director of his Division of the Army, but it is presumed that a surgeon of the Regular Army will be chosen.

Dr. Arthur Jordan,

Lecturer on Hygiene and on Dermatology in the University College of Medicine, of this city, having had yellow fever some years ago while residing in his native State (Mississippi), has been appointed by the Secretary of War an acting assistant surgeon in the U. S. Army, to serve with a "Regiment of the Immunes" about to go with the army of invasion to Cuba. A more excellent selection could scarcely have been made—having had experience with yellow fever, and also having served in the U. S. Service in Alaska, etc. It will be recalled that Dr. Jordan was the \$450.00 prize winner for the exhaustive "History of Medicine and Surgery in Virginia," offered by Drs. Joseph Price, of Philadelphia, Hunter McGuire, of Richmond, and H. M. Nash, of Norfolk, Va., awarded during the last session of the Medical Society of Virginia. He received the unanimous vote of endorsement for the position in the Army he now occupies, by the Richmond Academy of Medicine and Surgery, of which he has been an active member since he moved to Richmond. He has been ordered to report to the Commanding Officer at Mobile.

Journal Advertising.

Of 119 American medical journals said to have been written to with reference to the advertisement of a certain proprietary medicine, which is as widely advertised in various unethical ways as are some of the "liver regulators," about thirty accept the advertisement. The other 89 either refused it or looked upon it as so unethical as not to recognize the proposition with regard to its advertisement. The published list of journals that accept the advertisement, or say they will, is as follows:

Pacific Record of Medicine and Surgery.

JOURNAL OF AMERICAN MEDICAL ASSOCIATION.

Clinique.

Medical Era (Chicago).

Medical Standard.

Medical Visitor.

North American Practitioner.

Medical Herald.

Medical Monthly (Louisville).

Medical Progress.

Leonard's Illustrated Medical Journal.

North American Medical Review.

Medical Brief.

Medical Era (St. Louis).

Medical Mirror.

American Journal of Dermatology.

Pediatrics.

Der Hausdokter.

Medical Examiner.

Polyclinic.

Trained Nurse.

American Medical Compend.

Medical and Surgical Reporter (Toledo).

Medical Sentinel.

Medical Times and Register.

Jour. Comparative Medicine and Veterinary Archives.

Medical Summary.

Southern Practitioner.

Southwestern Medical Record.

We are not surprised that some of the above journals accepted the proposition of the advertiser; indeed, some of them have the reputation of taking anything. But what does the American profession have to say with reference to the acceptance of the advertisement by the *Journal of the American Medical Association*? Of the 119 journals solicited, throughout the entire South up to Kentucky, we find only two acceptances.

Dr. Frank W. Upshur,

After serving his term as House Physician and Surgeon in the Boston Marine Hospital, has returned to Richmond, Va., to engage in practice with his father, Dr. J. N. Upshur.

The New British Pharmacopœia

Is announced as ready for sale. Some of the Continental journals have already received copies for review. We have not learned, however, what price has been fixed upon for the volume.

The British Medical Association

Will hold its 67th annual session in Edinburgh, Scotland, July 26-28, 1898—Dr. Thomas Grainger Stewart, President. This Association is divided into sixteen sections.

Maltzyme Preparations,

Introduced by the Malt-Diastase Co., of New York city, are unquestionably of the very best of the diastatic preparations on the market. Although they take the lead from the laboratory standpoint, as shown by reports from Dr. Willis G. Tucker, Professor of Chemistry, Albany Medical College, Dr. Geo. C. Diekman, Ph. G., Professor of Theoretical and Practical Pharmacy, New York College of Pharmacy, and other laboratory workers of like ability, they are receiving the more valuable approval of clinical endorsement. This enzyme has a direct value as a nutrient; and its diastatic property is marked in bringing the starch in food into a soluble condition, and converting it into easily assimilable forms of dextrin and sugar. A striking quality of one of the most valuable preparations—Maltzyme with Cod Liver oil—consists in its fluidity, the readiness with which it is poured from the bottle and its miscibility with water. Try it in suitable cases, and report the results.

Guaiaicol Carbonate for Rheumatism.

Gilbert A. Bannatyne, M. D., M. R. C. P. Ed., Hon. Physician to the Royal Mineral Hospital and to the Royal United Hospital, Bath, in an article, entitled "The Treatment of Rheumatoid Arthritis," says in *The Edinburgh Medical Journal*, January, 1898, as follows: "Believing that the disease was due to a micro-organism, the nature of which was described in the *Lancet*, April, 1896, I was led to employ the guaiaicol carbonate on account of its high eliminative powers. I believe the guaiaicol carbonate to act locally on the alimentary canal before absorption, and afterwards, by favoring the elimination of the toxic albumins with which it combines. I give guaiaicol carbonate in doses of 5 to 15 grains, three times a day, rapidly increased to six times, when its effect is soon marked. I also apply pure guaiaicol in equal proportion with olive oil, painted on the affected joints nightly. Under this treatment I have seen rapid subsidence of symptoms and subsequent complete restoration to health, even in extremely severe cases."

A Desk Paper—Weight and Mirror Combined

Will be mailed, postpaid, to physicians on application to the Dios Chemical Co., of St. Louis. The design was originated by that company, and will prove useful for the office table. The firm manufactures diosiburnia, neurosine, and other preparations of frequent demand.

Blister over Dorsal Vertebrae Relieves Sickness of Pregnancy.

The late Dr. Theophilus Parvin is reported as having said: "I have not failed once for many years, by putting a *blister over the fourth and fifth dorsal vertebrae*, to put an end at once to sickness of pregnancy during the whole remaining period of gestation, no matter in what stage of the case I was consulted." In obstinate cases of vomiting or distressing nausea, the remedy is unquestionably serviceable.

Antikamnia

Has become so useful in the treatment of headaches and various pains and neuralgias that our note now about it is intended principally to caution parties who propose to take long trips—as to Denver—to provide themselves with enough of the tablets to carry them through the trip. It is very rare that long railroad rides do not cause just such headaches, neuralgias, etc., as antikamnia promptly relieves.

Chionia

Has grown into great popularity with those of the profession whose good results with it in practice have proven it to be a truly valuable hepatic stimulant, and useful in conditions pointing to torpidity of the liver. One to two drachms, three times a day, of the preparation made by the Peacock Chemical Co. enable the liver and bowels to resume their functions.

To Prevent After-Pains, Subinvolutions, etc.,

There is scarcely a preparation that had more favorable recommendation than "dioviburnia," from the numerous doctors all over the country who have used it. When the necessity arises it may be combined with ergot or other agents of its class.

To Relieve Aphonia, Hoarseness and Bronchial Coughs.

A writer in *Medical Summary* says: "Dissolve one grain of bichromate of potassium in four ounces of water. Take a teaspoonful every two or three hours to give relief in loss of voice, hoarseness and in bronchial coughs.

Our Next Issue

Will begin with reports of papers read before the American Medical Association, many of which have been promised. A number of book notices, as well as other matter intended for this issue, is unavoidably crowded out until then.

Obituary Record.

Dr. William T. Walker

Died at his home in Lynchburg, Va., after an illness of a few hours, in his seventy-fourth year of age. He was born in Goochland county, Va., and graduated in medicine from the Jefferson Medical College of Philadelphia in 1847. He practised for years in Goochland county, Va., but about fifteen years ago he moved to Lynchburg, Va., where he has ever since been in active practice. He joined the Medical Society of Virginia, 1886, and delivered the Annual Address to the Public and Profession during the session in Roanoke, 1889. He served several terms as a member of the City Council of Lynchburg, and was a member of the Public School Board of that city. During 1897, he was President of the Lynchburg Academy of Medicine. Dr. John Walker, of Lynchburg, is his son. The many honors shown Dr. W. T. Walker show in what esteem he was held by the profession and the community in which he lived.

Dr. Thomas B. Dorsett

Died at his home in Manchester, Va., from an overdose of chloroform, self-administered, May 19th. He was born in Powhatan county, Va., February 22, 1836. He first graduated in medicine from the University of Virginia in 1858, and afterwards from the Jefferson Medical College of Philadelphia. During the Confederate War he served as a surgeon, and later as a contractor for the Confederacy. His accidental death, as all seems to show, is but another lesson as to the danger of self-administration of chloroform. Having been up the night before, and needing sleep so as to meet an engagement an hour or two later, he did what his wife says she had seen him do many times before—put a little chloroform on a handkerchief and laid it across his face.

Dr. Benjamin Harrison

Died at his home near Millwood, Clarke county, Va., May 12, 1898, in his seventy-sixth year of age. He was a most highly esteemed physician of his county. One of his two sons is Dr. Benjamin Harrison, Jr., of Richmond, who is Surgeon to the Virginia State Prison, Professor of Materia Medica and Therapeutics in the University College of Medicine, Member of the Richmond City Board of Health, etc.

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Original Communications.

OBSERVATIONS IN ELECTRO-THERAPY.*

By G. P. EDWARDS, M. D., Nashville, Tenn.

Electro-Therapeutist to Medical Department Vanderbilt University.

There is no study in the domain of electro-therapy so interesting, and, at the same time, so difficult, as is that of the physiological action of the constant voltaic current. We may study the physical action of this current upon various substances, including dead animal tissue, and yet we get a very vague idea of its conduct in an organized, living, functioning being.

Theories and explanations have in all ages attended phenomena of all kinds. It has been necessary for the scientist to know all, and to have a ready explanation for the most peculiar phenomena.

These theories and explanations adhere to succeeding generations with great tenacity, regardless of their applicability.

We know the sun does not rise and set. We know that caloric, latent heat, light, electric fluid, etc., have no existence. We know there are no such things as gravitative force, chemical force, magnetic force and vital force. When we recognize that electric manifestations cannot exist apart from molecules and atoms, no evidence remains to support the theory of caloric and heat as forces acting upon matter.

The hypothesis that heat is a form of motion with chemical or mechanical action as relative factors, sets aside such terms as electric fluid and electric force as independent existences. The existence of chemical force may be denied upon establishing the fact that chemical action depends solely upon temperature, and since the physiological action of living tissues is electro-chemical, the term vital force can be no longer maintained. In like manner all so-called forces can be proven nonentities.

The statement that one fact may overthrow a theory holds true only so long as the so-called fact is a fact. "A change in fundamental conceptions is as difficult in science as it is in religion and politics."

It is as difficult to teach some old scientists new tricks as it is an old dog. A new and unbiased generation is essential to the wholesome acceptance of newly discovered truths. We are unable to say just what matter cannot do until we know all it can do. All such phenomena as electricity, heat, gravitation, etc., are due to properties existing and residing in the various substances in which these phenomena are manifest. Gravity is simply the influence one atom exerts upon another. This is due to the strain or stress in the medium or ether crowding the atoms together. Heat is caused by the motions of atoms and molecules. This motion is constant in all bodies, and is in inverse proportion to the density of the bodies.

Light or ether waves is the effect of vibration of the atoms and molecules upon the medium of ether producing waves. Chemical action depends upon the rapidity of atomic vibration, and the rapidity depends upon the mass of the atoms. There can be no chemical union without heat.

Electrical manifestations are caused by the reaction on ether by the rotary motion of atoms, producing a strain in the ether. Luminiferous ether, or so-called light and electricity are, then, identical.

All these phenomena, then, are produced by a variation in the conditions of these two things—matter and ether. These variations are due solely to the energy residing in the matter, and is simply physical energy acting upon matter.

The character of the resulting phenomena depends upon the mass and kind of the matter. The properties of the ultimate particles of matter are inherent and invariable, no change of character or operation can arise by virtue of environment.

The indestructibility of matter is universally

*Read before the Tennessee Medical Association, April 14, 1898.

conceded, but the proposition that any number of atoms do not possess a property not existing in any one of them, and "that the properties of any combination of atoms, simple or complex, are the resultant properties of the elements which compose it," is not so generally accepted. Each side of an atom presents a different aspect, and possesses different properties, so that the reversal of an atom in a given compound alters the properties of the compound.

A disturbance in the atomic relations in a substance will produce a molecular disturbance in the substance.

A molecule of protoplasm is composed of a large number of atoms of carbon, hydrogen, oxygen, nitrogen and other elements. If the different sides or faces of each of these atoms possess different properties, then, according to the laws of permutation, by a simple change of position, the possibilities of infinite variations are quite apparent. Many of these atoms are known to be allotropic.

With as many atoms as compose a molecule of protoplasm (or any complex body), we may consistently assume that some of the atoms are more superficially situated in the molecule than others. The surface atoms would be more exposed to the action of heat or cold or other irritants than those more deeply situated in the molecule. So that changes may take place in one part of the molecule more rapidly than in another. We may have, then, the condition known as surface tension, due to a greater stress or strain in the surface atoms than in those of the interior.

Electricity has thrown much light on the properties peculiar to atoms and molecules. It has shown us that the ultimate particles in all substances have polarity, with reference to their electro-magnetic relations and affinities. It demonstrates to us that every atom in every substance is electro-negative or electro-positive. If, for example, we pass a voltaic current through a saline solution we find the oxygen and acid radicals always go to the positive terminal, and the hydrogen and alkaline bases to the negative, and so by a few simple experiments we may ascertain the behavior of the atoms in any complex body. We can reverse normal osmosis with the voltaic current, converting exosmosis into endosmosis, or endosmosis into exosmosis.

If we pass a voltaic current through the Mississippi river, the oxygen will be liberated at one bank and the hydrogen at the other; but this does not prove—as Gröthius has taught—that decomposition and recombination

has taken place through a chain of molecules extending across the river. At all temperatures and under all circumstances the atoms and molecules of all substances are constantly in motion—never at rest—vibrating and bumping against one another, with greater or less impact, millions of times per second. Decomposition and recombination are going on at all times in all liquids, and consequently there are always a large number of free, uncombined atoms. Electricity has a greater affinity for these free atoms than they have for each other, so they rush toward the terminals of the battery, and as others are loosened, they behave in the same manner. There is, then, a double transfer of atoms toward the terminals—electro-negative atoms going to the positive terminal, and electro-positive atoms going to the negative terminal.

Now, in a mass of protoplasm decomposition and recombination are constantly going on.

The activity of the atoms is a thousand times greater than that of soldiers on a battlefield; and as nitrogen is the chief element of activity on the battlefield, so it is in the molecule of protoplasm. Nitrogen is a veritable Bedouin, always ready to break away from its associates, forming new unions only under compulsion, remaining in one place only while held in the embrace of other atoms. Now, if this atomic athlete and disturber of peace is an inhabitant of protoplasm, one important causative factor in the various changes constantly observed in protoplasm is quite apparent. The others may be elucidated by a careful inquiry into the peculiar properties of the other constituents of protoplasm.

Every atom possesses latent energy and can do work. Oxygen and hydrogen have energy, and when combined form water. These gases may be at zero temperature before union, but enough heat will be generated by their union to raise the temperature of the water formed more than seven thousand degrees. A piece of coal when allowed to combine with oxygen will eliminate enough energy, if applied to itself, to raise it two thousand miles high. Now if these elements possess this latent energy, and it is eliminated during decomposition and recombination, and the vital principle of animal life is the result of, and maintained by these energies, then it is reasonable to assume that the study of such agents as tend to facilitate the elimination, union and reunion, and appropriation of these energies—whether for heat, restorative, reconstructive or any other vital process of the human economy, would be of

practical importance to him who would attempt to adjust and regulate the functions in the human body. All forms of protoplasm, such as may be used for food, are charged with energy available for physiological uses in an organism. It differs from the final products of decomposition in possessing a much higher degree of energy. The energy in protoplasm available for food, depends upon the instability of its atomic union.

Prof. Dolbear says: "There is more energy in atoms than in any combination of them, and the looser the combination the more energy."

"The factors, then, of physiological phenomena, are the kinds of matter found in organic things, and the kinds of motion and energy which give to the kinds of matter their characteristic properties. The phenomena exhibited with these factors depend upon the inherent qualities of the atoms themselves, and it is certain that the old notions concerning their nature and possibilities must be profoundly changed, for the old is altogether inadequate, and no one to-day knows enough to say what matter cannot do, for such an one makes ignorance do duty for knowledge."

"What can be strongly stated is that the variable factors are *heat* and *electricity*, for these determine chemical reactions in the body as well as out of it. For a long time heat was the only physical factor employed for chemical purposes in inorganic process. Lately electricity has been utilized and has made possible many reactions which were either impossible, or required a long time to effect, such as the reduction of alumina, the tanning of leather, the making of potassium chlorate and sodium chlorate. Is it not altogether probable that the selective chemistry of tissues of all kinds is to be helped in like manner by employing the same agent, and that only present lack of knowledge prevents its successful use in promoting normal physiological processes and destroying abnormal? Anthropologists are telling us there are few, if any, individuals of any race that are thoroughly sound; that all are in a more or less diseased condition. That means that cellular structure does not distribute to physiological structure the proper kind and amount of physical energy needed. The trouble is with the cells, not the organs, and the trouble with the cells is instability due to lack of available energy, ultimately electrical, if there be any truth in what seems to be implied in all molecular structure, for every atom has its electro-chemical equivalent or electrical energy which is disposed in this way or

that as it is held more or less stable in its molecule."

From my own observation and clinical experience, I am constrained to believe that a large majority, if not all functional disorders, are due primarily to a molecular disturbance, on account of which the electro-magnetic relation between the molecules is impaired and the connection with the controlling center is broken. Pathological changes may follow if this state is continued for a sufficient time. When we recognize that the vital functions are governed by electro-magnetic centers, we can appreciate how slight a disturbance may cause serious disaster.

That these depolarized cells may be repolarized by the electric current scarcely admits of a doubt.

No principle in physics is more universally conceded, than that the passage of a voltaic current through a conducting substance causes the molecules in the substance to turn about so that the electro-negative ends all point in the same direction. We have no reason to doubt that this same phenomenon occurs when the current is made to traverse living animal tissue. Indeed, we have abundant proof that such a change does occur. Now if the cause of perverted function is molecular disarrangement, and the voltaic current restores these cells to their normal relation, are we not justified in expecting much from this agent? Indeed, in scientific hands it is eminently successful, while disappointment arising from the improper appreciation of the relation of electricity to the human body, based upon an imperfect knowledge of the physics of electricity, and the lack of suitable appliances and instruments of precision and scientific construction, is still a basis for condemnation by these empirical operators.

The action of the voltaic current on the sympathetic system serves to illustrate one phase of its action in functional impairments involving the central nervous system, and should convince an unprejudiced observer of its unquestionable value.

There is now no question concerning the influence of this agent upon the sympathetic system of nerves and the office they fill. When the medical profession fully recognize that in therapeutic doses electricity can be made to appreciably affect the deeper nerve structures, there is an immense field for research and therapeutic service.

The toxic action of certain drugs, as strychnia, arsenic, mercury, aconite and digitalis, led early investigators to believe that there was

virtue in therapeutic doses of these poisons, and a study of their physiological action proved their value.

An agent powerful for evil can generally be harnessed and made to exert this same power for good. To any one who has witnessed an electrocution, intentional or accidental, no additional evidence is necessary to convince him that electricity can be made to influence the deeper nerve structures and brain centers. This toxic action is horribly manifest. Cannot the same law apply to this as to the drugs? One one-hundredth or less of the toxic dose of a drug will produce a pronounced physiological effect. If fifteen hundred or two thousand volts will paralyze every function in the body in an instant, is it not reasonable to expect some therapeutic effect from fifteen or twenty volts?

Much depends upon the manner of harnessing and controlling this subtle agent.

The division of the sympathetic causes contraction of the pupil, flattening of the cornea, retraction of the globe of the eye, hyperemia of the conjunctiva, decrease in the size of the palpebral fissure, elevation of the temperature and turgescence of the vessels on the side of division.

Electrical stimulation of the severed nerve contracts the vessels and restores the normal condition. The vessels of the iris dilate on division of the sympathetic, prompt contraction following electrical excitation of the peripheral extremity of the cut nerve. Some months after division of the cervical sympathetic, atrophy of the brain on the same side has been noted. The cervical sympathetic is an important factor in the regulation of the intra-cranial blood pressure.

Intestinal peristalsis is undoubtedly more or less under the influence of the sympathetic. Irritation of the sympathetic plexus of the abdominal cavity excites all the genito-urinary organs.

The vaso-motor branches of the sympathetic control the secretory action of the body to a large degree. Ganglia, situated in the walls of the stomach, govern the secretion of the gastric juice, and the nutrition of the stomach is controlled by the solar plexus. The nutrition and secretions of the intestines are impaired by extirpation of the abdominal plexus.

The vaso-motor nerves of the liver arising from the floor of the fourth ventricle of the brain are from the sympathetic. Paralysis of these nerves, like injury to ventricle, will dilate the vessels in the liver and produce sugar in the urine.

If the anode of a battery be placed on the inferior carotid triangle, and the cathode a little below the auriculo-maxillary forsa, and a current of sufficient strength given, the pupil on the same side will first dilate and then gradually contract.

Vertigo, nausea, and, sometimes, syncope, may also attend this application. Marked effect on the circulation may be produced by applications about the neck and neighboring parts. Rockwell has reported slowing of the heart by ten beats per minute. Further evidence may be cited by the effect of this current on exophthalmic goitre. In my own clinical experience I have had abundant evidence to support the conviction that the voltaic current appreciably influences the sympathetic. I will illustrate by two or three cases representing as many phases.

CASE I.—Consulted me for nausea of pregnancy. Was not able to retain anything on the stomach. A swallow of water would be rejected at once. The voltaic current was applied from the inferior carotid triangle to the epigastric region for five minutes. Complete relief was immediate, and she took a glassfull of water with much relish, and no inconvenience. She returned on the following morning quite free from nausea, but took another treatment, after which she went to her home in McMinville. She was entirely free from nausea for five weeks, when the nausea and vomiting returned. She came to my office and took two more treatments and has been free from the symptoms since.

CASE II.—Symptoms same as above, same treatment given with complete relief lasting for about twelve hours. Treatment repeated every twenty-four hours. Vomiting returns if treatment is omitted.

These two cases represent the extreme phases from the standpoint of duration of relief. Between these extremes all stages are observed.

CASE III.—Miss A. complains of extreme tenderness in muscles of neck, sense of turgescence in vessels of neck and head, frequent attacks of headache, vertigo, sense of suffocation, and persistent insomnia. These symptoms have persisted for five years, gradually increasing in severity. All symptoms are increased by menstrual epoch. First treatment was administered through the head and neck from an induction coil of high E. M. F. Patient greatly relieved. This treatment was repeated two or three times at intervals of two or three days with same result. On the approach of the menses the symptoms became much more severe and obstinate. I then ap-

plied the voltaic current as in Case 1 for five minutes. Relief from all the symptoms was immediate. These treatments are repeated every two or three days, giving relief during the interval.

Insomnia, vertigo, and sense of suffocation do not return. The most persistent symptom is the sense of tenderness and swelling in the neck, which appears to be gradually disappearing. As it has been demonstrated that turbulence of the vessels of the neck and brain follow irritation of the cervical sympathetic, I attributed these symptoms in this case to reflex excitation of this nerve, and hence this method of treatment. I can hardly expect a cure by this unscientific ignoring of the causative factors and directing the treatment to the symptoms, but with the refusal of more rational methods this substitute affords the patient much comfort.

Jackson Building.

OPERATIVE TREATMENT OF CARCINOMA UTERI.*

By FRANKLIN H. MARTIN, M. D., Chicago.

Professor of Gynecology in Post-Graduate School and Surgeon to Woman's Hospital of Chicago.

The uterus, from its structure, the course of its lymphatic vessels, its clinical behavior under infection by carcinoma, must be divided into three parts: The vaginal, the cervical, and the fundal.

The vaginal portion is that external portion of the cervix, beginning at the external os and extending to the deflection of the vaginal mucous membrane upon its surface. It is covered with flat-celled pavement epithelium.

The cervical portion extends from the external os to the internal os, or from the pavement epithelium of the external orifice to the beginning of the tubular glands characteristic of the body of the uterus. The portion of the uterus above this plane constitutes the fundus.

Lymphatics.—Inasmuch as metastatic extension of carcinoma is almost exclusively through the lymphatics, nothing is more important for us to study in this connection than the direction and distribution of the lymph vessels leaving the uterus, and the whereabouts of the near and remote lymph glands in their course.

From the vaginal portion of the cervix and the upper portion of the vagina, which are

often closely involved with carcinoma, the lymph vessels connect with the deep inguinal glands, and through the connective tissue surrounding the upper portion of the vagina, and very low in the broad ligament they connect with the obturator and the external and internal iliac glands at the division of the common iliac artery.

The lymph vessels of the cervical portion of the uterus first pass through glands situated near the cervix low down in the broad ligament, and then through the internal and external iliac glands.

The lymph vessels from the fundus pass into broad ligament and finally through the spermatic chain along the fallopian tubes and ovaries to the superior lumbar glands, situated in front of the aorta near the lower border of the kidneys.

According to Williams, of London, (*Lancet*, January 1, 1887,) who has written a classical article on this subject, in speaking of cancer of the vaginal portion of the uterus: The disease may begin at any point of the vaginal portion of the cervix covered with stratified epithelium. In eight cases, three had no special form, simply some enlargement of the lips. In one the disease was papillary—possibly, he says, the beginning of cauliflower excrescence. One presented a red tubercular-like surface. One an uneven surface, having a granular appearance. It may be perfectly smooth and look fairly healthy, appearing only a little livid. In all cases examined by Williams the disease was superficial, from one-sixth to one-third of an inch in thickness, with one exception where it was three-fourths of an inch in thickness. The whole vaginal mucous membrane becomes involved before the disease will extend deeply. As a rule, it does not extend above into the cervical canal. In six of Williams' cases the canal remained healthy. It extends rather in the direction of the vagina. When it grows like cauliflower it is superficial and enters but a short distance into the cervix. There was no glandular extension in the obturator or the glands of the groin. This variety is more liable to appear during menstrual life, between the age of 40 and 50, rather than later.

The writer can recall three distinct cases of cervical cancer. The microscopical diagnosis in these cases was "carcinoma," without any reference to the form of cell. The diagnosis of cervical carcinoma was made entirely from the microscopical appearance, as shown after removal of the disease. One was a cauliflower growth, involving the whole vaginal portion of the posterior portion of the cervix; the sec-

* Read at Illinois State Medical Society, May 18, 1898.

and two flat growths, involving the vaginal cervix and more or less of the upper portions of the vaginal tubes. None of these extended into the cervix cavity proper. These cases involved only the superficial tissues, although the cauliflower growth appeared like a formidable growth when viewed from the vagina before the operation. In these three cases there could have been no metastatic extension to lymphatic glands, because all have been well after operation performed, six to ten years ago.

I have seen quite a large number of carcinoma involving the lower portion of the uterus where the tendency was to involve the vagina, in which I am unable to say now that the disease was limited to the vaginal cervix, but upon which I operated, and after long intervals there has been no recurrence. So much have I been struck by this clinical feature that I have learned to look with satisfaction upon any carcinoma of the uterus which has a morbid tendency to invade the vagina, even though its growth may be extensive.

Cancer of the cervical portion, according to Williams, always starts in the glands of the cervix. Never originates in the epithelium of the surface, but may begin close to the surface in the glands, or in the deeper portions of the glands. The portion of the cervix the disease may begin in is varied. In 11, in the 24 cases of Williams, it began in lower portion of cervix. In two, near inner orifice. In two, at two separate centers. In one, on a mucous polypus. Lower half more prone in his cases. Posterior lip afterward. It is not possible always to distinguish from squamous variety.

Forms.—May form polypus with possible squamous covering. May form papillary growths on the surface which penetrate deeply into the wall of cervix, and may look much like head of cauliflower. May begin in small nodule in wall of cervix, or may begin as nodule close to inner surface and gradually involve whole cervix.

The direction of the growth is in the direction of the tissue. It grows deeply. It rarely extends on the surface beyond the external os. May grow so as to involve a portion of the vaginal tissue. Its tendency is to grow toward the vagina in its deep invasion so as to involve the portiovaginalis and the vesico-vaginal, and recto-vaginal septa, but rarely includes the mucous membrane of the vagina. In regard to cervical lacerations acting as an exciting cause of carcinoma, Williams says he "never saw cancer attack a lacerated cervix in the tear. The tear is the last part attacked," he says. He arrives at this assertion after care-

fully examining a large number of specimens with the microscope. This seems to be at variance with the generally accepted idea, but Williams has the advantage of the majority of us because he has personally examined his specimens with the idea of determining this point.

Carcinoma of the fundus occurs much less frequently than that of the cervix. Pichot has collected forty-four cases of what he termed cancer of the body of the uterus. Ruge and Veit described twenty-one cases in which diagnosis was unmistakable. Williams collected twelve cases, three of which he had satisfactory microscopical evidence.

Williams describes two methods of growth: "Diffuse and circumscribed. The diffuse much more common. They assume a polypoidal shape, and the uterine wall at their base may be healthy, or they may form sessile tumors and grow in the substance of the uterine wall, projecting into the uterine cavity like submucous fibroids. The uterus is usually much enlarged. The disease commences in the epithelium of the glands. They are frequently complicated with fibroids."

Direction of Growth.—Two directions—surface extension and deep extension. The spread superficially is often stopped at the inner orifice of the uterus and the opening of the fallopian tubes. It may pass the os internum and invade the cervix. It may invade the fallopian tube.

In spreading deeply it involves the muscular wall, and may pass through it, giving rise to inflammatory exudate on the peritoneal surface, and extension with direct involvement of the parts. The lymphatic glands infected are those along the top of the broad ligament and the lumbar glands. This variety almost invariably occurs after the menopause.

I have condensed in these few pages a short review of Williams' lectures, which recorded definite knowledge as a result of accurate microscopical observation, because it coincides with my clinical experience and explains scientifically what I have noted frequently as empirical facts. It has taught me to classify my cases after thorough microscopical analysis, so that my future recorded cases will be of much more value to me and my colleagues than those of the past have been.

Such work will explain why a thorough removal of a proliferating cancerous mass, covering the whole lower portion of the cervix and extending on the vagina, will accomplish a permanent cure. It partially explains why a cancerous condition of the internal cervix,

which is almost too small to diagnose, will seldom be cured by any kind of an operation, and then only by the most extensive one. It partially explains why the complete removal of a uterus twice its normal size with carcinoma, or an adeno carcinoma of the uterus will end in a permanent cure, while a cancer of the fundus, which does not unduly enlarge the organ, will have extended too deeply to make a hysterectomy of any avail.

With more of this kind of work our surprises will be fewer. Those of us who have done much uterine cancer work in the past have had much to explain. Our grave prognosis, in what clinically appeared desperate cases, have proved us, to our trusting patients, most fallible; while the simple appearing case has occasionally driven us to disaster.

OPERATIVE TREATMENT.

If there were not frequent exceptions to almost every probable outcome of carcinoma of the three portions of the uterus, we could readily arrive at a plan of procedure of each. Unfortunately, these exceptions are many.

In the treatment of epithelioma, or the flat-celled cancer of the portiovaginalis, there would be little justification for removing the whole uterus for the condition if we did not know by experience that such cases, even typical cases, will rarely, but occasionally, be mistaken for cervical carcinoma, and, what is more frequently the case, a cervical carcinoma will be mistaken for a portiovaginal cancer, while an uncomplicated, typical, flat-celled, external cervix epithelioma, even involving a large portion of the vaginal wall, might, with perfect propriety, be treated by high amputation of the cervix, with the uncertainties of perfect diagnosis we are justified only in removing the whole uterus, including the apparently healthy and the apparently diseased.

In treating the typical carcinoma of the true cervix, there can be no question as to the duty of the surgeon. Here we have the variety of disease which works stealthily, but effectually. Frequently, before we have symptoms of sufficient moment to attract attention, the disease has gone to the vesico-uterine and recto-uterine tissue, has involved the glands in the broad ligament near the uterus, and already reached the deep inguinal glands. Here the microscope shows carcinoma of the deep tissue of the cervix. There is scarcely anything by which a diagnosis by inspection can be made. The woman has lost flesh in an unaccountable way. There is a slight irregularity in her menstruations. There have been

one or more slight gushes of blood between menstruations. Occasionally, there is the so-called cachexia, caused from septic absorption from bacterial infection of the necrosing cervix. She is between 40 and 50 years of age.

In such a case, heroic measures must be adopted early. No waiting for the preparatory treatment more than the necessary preparations for a capital operation. Here we must remove the uterus, and, as far as possible, the infected glands. It is in these cases that experience in operating counts for more than anywhere else in the abdomen. Any one of intelligence, with a knowledge of the principles of surgery, can haggly away a uterus—can do a vaginal hysterectomy, if there is not much the matter with the uterus—and have a living patient pull through in the end. It takes experience in abdominal surgery, in pelvic manipulations, which years of work only can impart, in order to give the necessary dexterity to remove the uterus, to remove as much of the broad ligament as it is necessary to remove, without also removing or injuring the ureters, to remove the nest of internal iliac glands, situated at the juncture of the division of the internal and external iliac artery; to remove all this, and, at the same time, spare the life of the patient, is, I say, a problem for an experienced abdominal surgeon.

This difficult, but rational, operation, which was proposed by Dr. Emil Ries, of Chicago, is the operation which blazes the work of the future. It will not do for us to say that it is too late to operate on these cases when the iliac glands are involved, because we know it is not too late to operate upon a carcinoma of the breast when the axillary glands are involved. In fact, we know that we should remove the axillary glands in cancer of the breast, even when we cannot discover that they are involved. Then, we should remove these glands when they are not involved, in order to break up the one grand highway for metastatic extension from the cervix. Then, we should remove them when they are apparently involved, because an apparent involvement may only be an enlargement from septic infection from seat of primary cancer. And we certainly should remove them if they are actually carcinomatous.

This operation involves a thorough preliminary curettement and cleaning of the cervix, a complete abdominal hysterectomy in Trendelenburg position, and the incising of the peritoneum over the deep iliac glands and their removal.

There is but one way of treating carcinoma

of the body of the uterus. That is by a vaginal or abdominal hysterectomy. Frequently the uterus is much enlarged, and an abdominal hysterectomy, in such a case, is preferable. Fortunately, as we have seen, a carcinoma of the body rarely extends by way of the deep iliac lymph vessels and glands. Fortunately, it is less prone than cervical carcinoma to deep extension at all. I have removed several large carcinomatous uteri for carcinoma where the whole muscular wall had been penetrated, and where the peritoneal surface had been involved, and after more than two years there has been no return. We must recognize a difference between adino-carcinoma of the body, with a tendency to excessive proliferation of tissue, with papillary tendency, and the carcinoma of the deep epithelium of the body of the uterus. The first, while more showy, is less liable to deep invasion and metastatic extension.

At last, we must consider what to do with carcinomatous uteri in which it is impossible to obtain the probable primary source of the disease, whether cervical, fundal or vaginal; cases in which the disease has been neglected; in which it is impossible to outline the uterus, or to ascertain to what extent it is involved; in which there is extensive necrosis, excessive discharge, great loss of flesh, septic absorption, great pain, and apparently the most hopeless condition generally.

These cases should not be abandoned as long as they breathe. Frequently, the symptoms are greatly exaggerated because of septic intoxication, as a result of bacterial infection of the necrotic tissue. Sepsis, rather than cancer, is primarily killing the woman. Unnecessary blood loss is sapping her vitality instead of extensive involvement of the carcinoma. In fact, we cannot know. While we are learning rapidly, we are ignorance itself when face to face with this desperate problem. For that reason we should never abandon them. I have been surprised (and I am sure I am not alone in this experience), I have been surprised, I say, to find cases like the above picture actually get well after a thorough curettement and cauterization of the diseased tissue. I have seen a large number relieved temporarily of their sepsis, of their blood loss, of their stinking discharges, and given an impulse which was little short of miraculous.

The rare cases which were cured by this procedure were undoubtedly epithelioma, involving the vagina and external cervix, with great tendency to proliferation and necrosis, but with little tendency to deep extension. This treatment will always relieve, never do

harm, and occasionally a cure will be the surprising outcome.

Let me summarize this rambling paper:

1. A microscopical examination of the tissue of the three portions of the uterus should be made whenever one of the well-known classical symptoms of carcinoma appears.

2. Carcinoma of the vaginal portion of the cervix should be treated by vaginal hysterectomy, including the upper portion of the vagina, and as much of the base of the broad ligament as it is possible to include, with the ureters pushed well to the side of the pelvis.

3. Carcinoma of the body of the cervix should be treated by vagino-abdominal hysterectomy, with thorough removal of the broad ligament and the deep iliac glands.

4. Carcinoma of the body should be treated by thorough removal of the uterus by vagina or abdomen, so as to include the tubes and ovaries. The iliac glands should be removed if involved.

5. Neglected carcinoma should never be abandoned, but should be symptomatically relieved by curettement and cauterization, with the possible hope of permanent relief in a small percentage of cases.

34 Washington Street.

CANCER AND ITS TREATMENT BY THE CATAPHORIC DESTRUCTION OF ITS ESSENTIAL GERMS.*

By G. BETTON MASSEY, M. D., Philadelphia, Pa.

The increasing prevalence of cancerous affections would long since have riveted the attention of medical men had not the feeling of utter helplessness in the presence of this affection served to dampen and discourage effort. The frequent failure of operative measures, and the tendency on the part of surgeons to remove ever increasing portions of surrounding healthy tissues, has bred a distrust on the part of physicians and patients towards any active treatment, though I have reason to believe that more cases are operated on under favorable conditions than ever before.

In spite of a general effort at early operation, stimulated by an increasing belief in the purely local origin of cancerous tumors, the prevalence of these affections has gone on increasing at a most alarming rate, as shown in mortality tables wherever compiled in civilized countries.

* Read before the Medical Society of Pennsylvania, at Lancaster, May 18, 1898.

To get at the exact facts on this question in this portion of the country, I have asked the Registrar of Vital Statistics of Philadelphia to prepare a tabulated statement of the mortality from cancer in Philadelphia from the beginning of the city's records to the present time, which I subjoin to this paper. This table un-

CANCER.

Years.	Population (Inter-Census Years Esti- mated).	Total Mortality.	Cancer Mortality.	Cancer Mortal- ity to Popula- tion per 1,000.	Cancer Mortal- ity to Total Mortality per 1,000.
1861	576,408	†13,540	183	31.7	13.6
1862	587,287	†13,864	183	31.1	13.2
1863	598,166	†14,220	190	31.7	13.3
1864	608,045	†15,875	180	29.1	11.3
1865	618,924	†15,633	188	30.3	12.0
1866	620,803	†15,362	203	32.7	13.2
1867	640,682	12,690	200	31.2	15.8
1868	651,561	13,391	236	36.2	17.6
1869	662,440	13,428	232	35.0	17.2
1870	*674,022	15,317	261	38.7	17.0
				332.77	14.42
1871	700,000	15,485	280	40.0	18.1
1872	725,000	18,987	316	43.5	16.6
1873	750,000	15,224	268	35.9	17.6
1874	775,000	15,238	307	40.8	20.1
1875	800,000	17,805	318	40.0	17.8
1876	825,504	18,892	310	37.5	16.4
1877	850,856	16,004	327	38.1	20.4
1878	876,118	15,743	380	43.3	24.1
1879	901,380	15,473	364	40.3	23.5
1880	*846,980	17,711	368	43.4	20.7
				440.28	19.53
1881	868,000	19,515	413	47.6	21.1
1882	886,539	20,059	429	48.3	21.3
1883	907,041	20,076	404	44.5	20.1
1884	927,995	19,999	476	51.3	23.8
1885	949,432	21,392	487	51.3	22.7
1886	971,363	20,005	461	47.4	23.0
1887	993,801	21,719	500	50.3	23.0
1888	1,016,758	20,372	448	44.0	21.9
1889	1,040,245	20,536	531	51.0	25.8
1890	*1,046,964	21,732	537	51.3	24.7
				448.70	22.74
1891	1,069,264	23,367	572	53.4	24.5
1892	1,092,108	24,305	569	52.1	23.4
1893	1,115,562	23,655	614	55.0	26.0
1894	1,139,457	22,680	589	51.7	26.0
1895	1,143,864	23,796	682	59.6	28.6
1896	1,168,793	23,982	676	57.8	28.2
1897	1,214,256	22,735	688	56.6	30.2
				555.17	26.70

* U. S. Census—(inter-census years estimated).

† 1861-1865—Period covering the War of the Rebellion, mortality increases by deaths in U. S. hospitals.

‡ Ratio by periods of ten years.

fortunately covers but thirty-six years, extending from 1861 to 1897, inclusive. An exami-

nation of it will show that in 1861 there were 31.7 deaths from cancer to 100,000 population, and that 13.6 persons died from cancer in 1,000 deaths. The figures for last year were 56.6 deaths from cancer to 100,000 population, and 30.2 deaths from cancer to 1,000 deaths.

In other words, the deaths from cancer in 100,000 persons in Philadelphia have increased from 31 and a fraction to 56 and a fraction in thirty-six years. In every thousand deaths in the same time, the ratio of cancer has increased from 13 and a fraction to 30 and a fraction—showing that its relative frequency in Philadelphia has almost trebled in the last thirty-six years.

A recent tabulation of the mortality of cancer in England shows quite a similar increase, the years taken being 1861 and 1886. In the former year, there were 37.6 deaths from cancer per 100,000 population; in 1886, 61 deaths from cancer per 100,000 population.

The hope that this black cloud, that now threatens future generations even more grievously than the present, may be dispelled, lies in the establishment of the truth of the parasitic nature of cancer; for when this is generally understood, the value of early destruction will stimulate early attention to cases. The full recognition of the parasitic nature of cancer will also turn the attention of the surgeon to methods that will not risk the transplantation of the germs to cut surfaces, thus causing auto-inoculation.

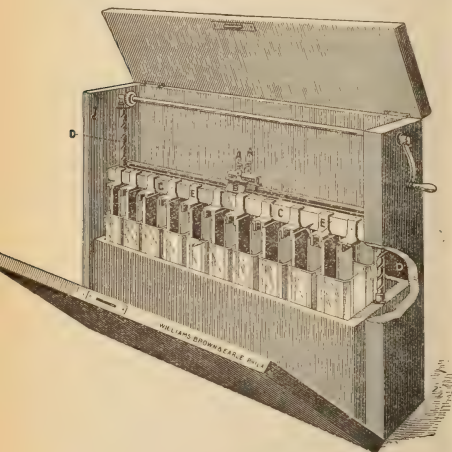
Recent experiments by two Italian physicians, Sanfelice and Roncal (in 1895), which have been verified in Vienna, apparently establish the fact that cancer is due to a blastomycetis or yeast-like fungus, and it is extremely probable that the germs themselves are taken into the body, in some way, from a previous stage of existence, either in the soil or in parasitic tumors of trees.

These demonstrations of the parasitic nature of cancer are extremely interesting in connection with my own method of treating these affections, which was alluded to before this body at its meeting at Harrisburg, and which may be said to be the highest possible expression of an interstitial parasiticide. I shall not go into the minute details of this method, nor of the cases that have been cured, both of which have been recently published, but will merely recite its general principles, and exhibit the apparatus required in its application.

Briefly stated, the method consists in the interstitial dissemination of the nascent oxychloride of mercury, or of the mixed oxychlorides of zinc and mercury, throughout the growth,

by radiant cataphoresis. The patient is placed under ether, and an electrode of gold covered with mercury, or of zinc and mercury, is inserted into the growth, with large dispersing pads placed on a distant part of the body. Sufficient current is now passed through the growth from the active electrode in its middle to spread the nascent oxychloride produced by erosion of this electrode throughout the tumor and its ramifications, resulting in interstitial death of the cancer germs and a portion of the stroma, and a final healing by granulation of the site of the growth. To do this, strong currents are required, and a duration of the application appropriate to the extent of the growth, every effort being made to destroy all germs in one application. The current strengths will vary from 350 milliamperes, in small growths, to 1,500 in large ones, for durations varying from fifteen minutes to half an hour.

To produce such medically enormous currents, I have been compelled to lay aside the ordinary portable galvanic batteries, many of which are mere toys at best, and have designed a transportable galvanic battery, a sample of which, made by Williams, Brown and Earl, of Philadelphia, I herewith exhibit. [See illustration.]



The special features of this battery, which not only render it available in the large currents of cancer, but equally convenient in ordinary work, not requiring high portability, are the capacious glass cells which hold enough

acid solution for prolonged treatment, and will resist corrosion; the mechanism for raising and lowering the elements permitting the use of this means of controlling the current with great ease; and the ease with which each pair of elements is detached for amalgamation and replaced. Each of these points may seem trivial, but they will make the difference between success and failure in actual use.

Two such batteries are needed in cancer work, and they may be sent empty to any part of the country, and will require a gallon each of electropoion or ordinary acid battery solution, with which they are readily charged before use.

The electrodes for cataphoric diffusion of mercury within cancerous tissues I also show. They are of various shapes—those of gold being hollow for the addition of an excess of mercury to its amalgamated surface during action; and those of zinc simply amalgamated, since the mercury is not so easily exhausted from their surface by reason of a large proportion of the zinc itself being conveyed into the tissues, producing a greater caustic action than mercury alone.

Seven cases have been cured, including both carcinomata and sarcomata. Of these patients one was shown to the American Medical Association in June, 1897, and two to the Philadelphia County Medical Society.

1636 Walnut Street.

VOMITING OF PREGNANCY.

By LUTHER SEXTON, M. D., New Orleans, La.

The exact etiology of the nausea or vomiting of pregnancy has not been clearly determined, further than being one of the sympathetic disturbances of the pregnant state which is so common that the laity look upon it as one of the first and most reliable symptoms of pregnancy. Amongst chlorotic subjects, in malarial districts, we may often have not only morning sickness, but cessation of menses in the non-pregnant, which morbid condition should always be borne in mind in making a diagnosis when these conditions are present.

Owing to the nervous element in these cases, and to the influence of psychical cures, many useless drugs have been recommended, when the apparent benefit which they produced were merely coincidences never to be borne out by subsequent trial. On this account, nearly the entire list of the pharmacopœia has

been more or less vaunted, when, as a matter of fact, the fewest number of drugs are the least bit helpful.

For this and other reasons, it is best not to do anything for the ordinary or simple cases, except to regulate diet, exercise, and other hygienic conditions. So long as the ingestion of food and its proper assimilation is affected, we should not even prescribe for morning sickness, unless it is the simplest placebo. A change of surroundings from city to country, or from home to mother's (always leaving the husband behind in either event), often tends to effect a cure. But when the distressing symptoms continue for several months, and the nutrition and vitality of the patient are giving away, why that is another story, in which every resource of the doctor is taxed to avoid impending disaster.

Constipation and salivation are common symptoms which aggravate the condition, to be met by 2½ grs. each of calomel and soda tablets; cascara sagrada cordial, phosphate of sodium, seidlitz powders, etc., are the simplest remedies for the constipation. If medicine by mouth nauseates, enemata of milk and eggs, or beef broth, are to be used both as food and to relieve the bowels. Glycerin suppositories and the more irritating enemata may be employed if the food enemata fail to act.

Retroversion and antelexion of the uterus are common conditions to be corrected. Tampons of boro-glyceride in Dangle's cul-de sac, while the patient is in the knee-elbow position, will relieve the former; while an air pessary or the tampon of boro-glyceride, between the bladder and womb, with hips elevated on pillow, and constant dorsal decubitus, will sometimes relieve the latter condition. The permanent cure of flexions and versions is always effected by the development of the child, if we can prevent the premature delivery. Hard pessaries usually stretch the parts, and soon serve more as a weight to drag the womb down than as an instrument to hold it in position. The advantages of the boro-glyceride tampon over such instruments consist not only in producing less irritation, but in abstracting serum from womb and vagina, thus reducing the weight of the womb. Suppositories of one-quarter grain each of sulphate of morphia, cocaine, and extract belladonna, with two grains of iodoform (or with the iodoform left out if there is any objection to the odor) often procure rest at night, and permit the stomach to retain food.

Application of ten per cent. cocaine salve may be applied to the mouth of womb after

applications of tincture of iodine or nitrate of silver solution, if there is any ulceration or tear to contend with.

Of medicinal agents for the vomiting *per se*, the best combination I have found consists of—

R̄ Cocaine hydrat.....gr. j
Bismuth subnit.....3iv
Milk magnesia.....3ij
Aq. lanno cerosi.....
Aq. cinnamoni....āā 3ij

M. et. Sig.—Two teaspoonfuls every hour or two apart.

This may be followed by crushed ice, not only by the mouth, but applied to the throat or to the cervical vertebra by means of ice-bags to avoid wetting the patient.

Catarrhal conditions of the stomach are best treated by two-drop doses of Fowler's solution with five-drop doses of tinct. nucis vomice in essence of pepsin or simple elixir; or if this cannot be kept down, its equivalent in capsule or pill may be tried. Inguvin is a proprietary medicine which is beneficial in these cases.

Just when to interfere in these cases by bringing on an abortion is a serious question. Primarily, none of the reputable members of the profession but would gladly be relieved of the charge of infanticide, both here and hereafter, if infanticide were all; but the risk to the mother of an abortion, when she has been so run down as to require it, is also a serious matter, as we are as likely to have two funerals as one. But regardless of these questions of conscience, there comes a time when we are compelled to interfere in the interest of the mother. Fortunately for me, this decision was never reached but in one case, and that in the person of a church patient whose family from religious teaching was against abortion, even if it cost the life of the mother, which it did in the end. Yet it is the thing to do as a last resort according to our best teachers and authors, and others who have a right to an opinion upon the subject.

The time to adopt this plan of treatment is when both stomach and rectum refuse to retain or assimilate food, the tongue becomes brown and coated, the throat dry and parched, sordes collects on teeth, temperature rises, urine becomes scanty and albuminous, and mind wandering, disproportionate fast pulse and low temperature are present. Any two or three of the above conditions or symptoms would justify bringing on premature labor, as it is just as reprehensible to delay too long as to operate too early in such cases.

As a preliminary step, it would be well to dilate the mouth of the womb, as even this

simple proceeding has stopped the vomiting in a goodly number of cases. This dilatation of the cervix, as a curative measure, was discovered by accident, by Dr. Copeman, who, being desirous of bringing on premature delivery, found that dilatation with the finger, in trying to rupture the membranes, while it did not bring on abortion, stopped the vomiting. In trying this treatment, steel sounds or dilators are sterilized or dipped in carbolic acid and inserted about half an inch into the mouth of the womb, when the dilator is opened. A boro-glyceride tampon, or piece of carbolated gauze, is inserted into the vagina. If, with other suitable treatment and perfect rest, there is no relief of the vomiting, the same procedure may be repeated within two or three days. Even when the mouth of the womb is patulous, or lacerations exist, there may be constricting bands higher up in the cervix which need stretching. At the same time, a ten per cent. solution of silver nitrate should be painted over the ulceration or tear.

Finally, if artificial termination of pregnancy is determined upon, the carbolized tupelo tent, or dilator, is the preferable method, as it often stops the vomiting long before the ovum is expelled.

Fourth Street and Charles Avenue.

ARTIFICIAL FEEDING OF INFANTS, ESPECIALLY IN GASTRIC DISTURBANCES.*

By J. M. G. CARTER, M. D., Sc. D., Ph. D., Chicago, Ill.,

Professor of Clinical and Preventive Medicine, in the College of Physicians and Surgeons, Chicago (School of Medicine of the University of Illinois); Ex-President Illinois State Medical Society, etc.

Gastric disturbances of infants are due mainly to improper food. The food may be at fault in quality or quantity. Rarely are cases of congenital malformation or deficiency met in which the usual food preparations do not agree. If the disturbance is caused by the food and is not due to some deficiency in the baby's stomach, the first inquiry regards the source of the food. If the food is mother's milk, the health and temperament as well as the disposition of the mother must be observed. If the mother's milk is acid, the administration of a little lime water to the baby after each nursing may remove the difficulty. Mother's milk may contain too great a relative proportion of proteids, and constant functional disturbances in the

baby's stomach arise. In this and in other cases mother's milk may have to be abandoned and some form of artificial food prescribed.

If the disturbance has continued until organic injury of the stomach has supervened (as chronic gastritis), additional modifications of food may be required. The food may require complete or partial predigestion or peptonization. Under such circumstances, it is often a long and tedious task to find a preparation of food which will entirely remove the condition and relieve the symptoms.

Next to mother's milk, cow's milk is the proper food for infants. This must be modified so as to correspond to mother's milk. Each case requires special investigation. If there is constipation and a poorly nourished condition of the patient, cream should be given in larger proportion than in cases of well-nourished infants, with a tendency to diarrhoea. Bearing in mind the fact that normal human milk is alkaline, while cow's milk is neutral or acid, a necessity will be recognized for using a little lime water with the cow's milk.

Sterile milk should be used. If proper precautions have been taken in milking the cow, and the milk is passed *at once* into sterilized bottles, a healthy cow's milk *is sterile*, and needs no heating except to raise it to proper temperature for feeding the baby—about 98° or 100° F. The milk must be analyzed, and then by comparing with normal human milk, a formula can be given and the milk prepared as needed.

Human milk contains water, 88.4 per cent.; fat, 4 per cent.; lactose, 6.5 per cent.; proteids, 1.8 per cent. If a cow's milk is found to contain water, 87.3; fat, 4; lactose, 5.69; proteid, 2.80, a simple calculation shows that to reduce the cow's milk to the equivalent of mother's milk, it is necessary to add 57.1 per cent. of water. To prepare 500 cc. of this modified cow's milk from the specimen here given, will require 312 cc. of milk and 178 cc. of water (174 water and 4 lime water). To this must be added 9 cc. of cream and 10 gm. of lactose.

When it is not convenient to analyze the milk, a good average food may be thus prepared: Skimmed milk, 300 cc.; water, 166 cc.; cream, 30 cc.; lactose, 8 gm.; lime water, 4 cc. If constipation occurs, increase the proportion of cream; if diarrhoea, reduce the amount of cream or increase the proportion of lime water. Sometimes colic, and even diarrhoea, may be caused by the proteids in cow's milk, and it is found necessary to reduce the quantity of milk and increase the proportion of cream.

It occasionally occurs that summer heat, or

*Original abstract of a paper presented to the Section on Diseases of Children, American Medical Association, during its session in Denver, Colorado, June 7-10, 1898.

some condition of the stomach, may cause such digestive disturbance that cow's milk must be totally discarded. When such is the case, evaporated milk, malted milk, malted meat, milk food and similar commercial preparations may be tried, selecting with a view to the conditions prevailing in individual cases.

Suite 900 Reliance Building, 100 State Street.

TREATMENT OF AMBULATORY GYNÆCOLOGICAL CASES.*

By DENSLOW LEWIS, M. D., of Chicago, Ill.

Professor of Gynecology in the Chicago Polyclinic; Consulting Obstetrician to the Florence Nightingale Home; Senior Advisory Gynecologist and Obstetrician to the Cook County Hospital, Chicago.

In the examination of every gynecological case the question of operation is first to be considered. Even when such operation seems necessary, the circumstances of the patient at times prevent the acceptance of the best advice.

The cases treated at the Chicago Polyclinic are chiefly working women, poor, but not destitute, who cannot afford the time to submit to an operation without very serious interference with their daily work. Under these circumstances, the treatment instituted is often a compromise, but it is satisfactory to observe that even in instances of very serious diseases patients will often recover. The details of methods in use are herewith submitted:—Veneréal warts, if small, are snipped off with scissors under cocaine anæsthesia. In case of undue hæmorrhage the base is touched with a drop of carbolic acid. If the warts are large and extensive, the patient goes to the hospital for a few days, the strip of mucous membrane from which they grow is dissected off, and the edges united very much as in a Whitehead operation for hæmorrhoids.

Chancroids are touched with strong carbolic acid for its anæsthetic effect, followed by a drop of fuming nitric acid applied with a glass rod. Powdered boracic acid is applied to suppurating surfaces after the parts have been cleansed with a boracic acid solution and dried with absorbent cotton.

Chancres were not often seen. They occurred on the fourchette and inner surface of the labia majora. They were dusted with boracic acid, and pills of proto-iodide of mercury were exhibited.

Condylomata have been dusted with pow-

dered boracic acid or stearate or oleate of zinc. A douche, usually of 1–4000 solution of bichloride of mercury, was given two or three times a day, and general cleanliness of the parts was insisted upon. With these local measures, under a vigorous mixed treatment, the condylomata would disappear or perceptibly diminish in size, and the ulcerative conditions of the neighboring parts would improve.

Pruritus, in connection with pathological conditions, would often be relieved by applications of powdered boracic acid and the maintenance of cleanliness. In other cases a saturated solution of sulphite of sodium would be prescribed with great benefit, although in some cases of pregnancy its use would have to be persisted in.

Lacerations of the perineum would often present themselves, but usually cicatrization had taken place and no serious discomfort was occasioned by their presence. In recent cases powdered boracic acid would ensure healing without much pus. Where extensive rectocele existed, the patient was advised to submit to a Hegar operation in the hospital. In many instances, circumstances prevented the acceptance of this advice, and it was found, in the great majority of cases, that when the patient, in the course of time, recovered from pelvic pain and other symptoms due to infection of some of the pelvic viscera, the rectocele apparently caused but little inconvenience as long as the bowels acted daily.

Cases of somewhat extensive laceration of the anterior vaginal wall would favor the development of a cystocele, but in many cases without appreciable inconvenience. Here also it was noted that, when the symptoms due to infection were relieved, the cystocele would persist, but it would cause—at least while the patient was under observation—no decided bladder symptoms.

Many cases were observed of what is commonly called "irritation of the neck of the bladder." The symptoms were undue frequency in urination and a desire to pass one drop more, accompanied by more or less pain. Urethral caruncle, when observed in connection with these symptoms, was promptly removed under cocaine anæsthesia. In addition to the routine treatment of infection of the pelvic contents, to be later described, it was customary to recommend the copious drinking of water and the exhibition of twenty grains of benzoate of sodium three or four times a day. Only exceptionally would it be necessary to give an anodyne. When pain was severe it would usually be relieved by a suppository of one-

* Abstract of paper read at the Denver meeting of the American Medical Association, June 8, 1898.

half grain of the aqueous extract of opium often combined with one-third grain of alcoholic extract of belladonna. Rarely were cases of chronic urethritis seen. They would usually be cured by a bi-weekly passage of steel male sounds gradually increasing in size. Only exceptionally was it necessary to send the patient to the hospital for bladder irritation, urethral exploration, or some operative procedure.

In many cases infection of the vulvo-vaginal glands was seen. Very often it was found that small incisions, amounting to little more than a puncture, had repeatedly been made, and it was gratifying to observe that an incision which extended throughout the length of the gland would invariably effect a cure within a few days. Chronic cases, where induration was apparent, were often sent to the hospital and operated on by excision of the glands.

Hemorrhoids were often seen in connection with other diseased conditions. If external, and especially if situated some distance from the verge of the anus, they were incised and the clot turned out. In other cases an ointment of equal parts of ung. gallæ and ung. zinci benzoat, containing perhaps ten grains of extract of opium to the ounce, would reduce the tumors in size and relieve the itching and irritability complained of. Of course means were adopted to secure free bowel movements in each case.

Internal hemorrhoids and anal fissure were treated by moderately stretching the sphincter muscle and applying powdered boracic acid twice a week. Of, course here also free catharsis was secured. It was found that these measures were usually sufficient to heal the fissure, reduce the hemorrhoids to an appreciable extent, and to relieve all symptoms due to their presence.

When leucorrhœa was profuse the gonococcus would be looked for. A drop of the pus would be collected on a glass slide; methyl blue or gentian violet would be used as a staining material, and the specimen would be examined microscopically. If diplococci were found, Gram's iodoiodine solution would serve to differentiate the gonococcus by decolorizing it. Usually it was found where the discharge was profuse, unless a recent infection of the endometrium or a cervical laceration was clearly demonstrable. Vaginitis was rare except in children. Here it was the rule in nearly all cases of leucorrhœa, the delicate character of the mucous membrane apparently offsetting the protection afforded in adults by the pavement epithelium. The treatment of gonorrhœa and of the vaginitis of children consisted in

the application of a nitrate of silver solution to the mucous membrane of the vulva and vagina.

Lacerations of the cervix were often noted. Sometimes where there would be no infection, the finger could detect a solution of continuity in the portio vaginalis, but no other symptoms, subjective or objective, could be determined. In such cases the lacerations were let alone. In other cases the infection was the factor of importance. The portio vaginalis, torn bilaterally or presenting an irregularly stellate laceration, would be everted and hypertrophied, the red and inflamed surface of the endocervical mucous membrane constituting the condition which used to be called "ulceration of the womb." In all such cases there was found an extension of the infection to the endometrial mucous membrane or beyond. Repair of the lacerations, or amputation of the cervix, together with a thorough curetting, was usually recommended, but in most instances sociological and economic reasons prevented the acceptance of this advice. Under these conditions, powdered boracic acid was applied and the routine treatment, soon to be described, was persisted in.

This routine treatment consisted in a 1-4000 bichloride of mercury douche, to be taken as hot as can be borne, twice daily, with the patient on her back and hips up. The patient is told to assume the knee-chest position twice a day for ten minutes. Twice a week, when she calls at the dispensary, she assumes this position upon the operating table; a large Sim's speculum is introduced, and a tampon of absorbent wool, one end soaked in a 10 per cent. solution of ichthylol in glycerin, is applied by means of a uterine dressing forceps. This tampon remains *in situ* some twenty-four hours unless an offensive discharge or undue irritation ensues, and is removed by the patient by means of a string which is tied to one end of the tampon.

The bowels are made to act freely at least once a day. For this purpose, it is customary to prescribe the fluid extract of cascara sagrada in a routine manner. The drug is given at first in 20-drop doses, to be taken three times a day. If the bowels do not move, a compound cathartic pill is given at night and a dose of salts in the morning. Sometimes it is necessary to give at first a saline enema or one of glycerin and water. However this may be, no more than 20 drops of the cascara are given at a dose. In a few days, the salts may usually be omitted in the morning, and some days later the pill at night is also omitted, to be promptly resumed, however, if on any day the

bowels fail to move. It is usually found that, after a week's time, the three daily doses of cascara produce daily evacuations. Our directions now are that the drug be taken regularly in the same dose, no matter how frequent the discharges may be, provided they are fecal in character. It is noted that after the cascara has been taken for some little time, colicky pain and diarrhoeal movements supervene. This is our signal, not for stopping the medicine, but for its exhibition in the same way three times a day in a smaller dose, say 15 drops instead of 20. Another period of regular bowel movement usually follows, but in the course of time there again occur watery movements and abdominal colic. Here, again, the dose is diminished, the original dose being promptly resumed, or the cathartic pill, enema or salts given if required. In a few weeks more, the dose can often be still further reduced, although taken in the same regular manner three times a day. Finally, after the dose has been reduced to one drop three times a day, the medicine can be discontinued, and the bowels act freely and regularly of their own accord.

It was found in practice that this routine treatment of infection of the pelvic viscera was most satisfactory. Cases of infection of the endometrium, and cases where infection had extended through veins or lymphatics of the connective tissues surrounding the uterus, were alike benefitted in the course of time. Often, in serious cases that seemed to require immediate operation, it was found that persistence in this routine treatment would some time cause a subsidence of all symptoms, both subjective and objective, so that the patient would become practically well.

The record of these every-day gynecological cases, and the details of the simple treatment instituted, show that it is often possible to cure serious cases of infection without interference with the daily work of the patient. It shows also that curetting of the uterus, uterine dilatation, the application of caustics to the endometrium, and the fitting of pessaries, can safely be dispensed with in many cases.

217 Fifty-Third Street.

AN ESSENTIAL OF THE ART OF MEDICINE.*

By J. H. MUSSER, M. D., of Philadelphia, Pa.,

Assistant Professor Clinical Medicine, University of Pennsylvania; Physician to the Philadelphia and the Presbyterian Hospitals; Consulting Physician to Woman's Hospital of Philadelphia, and to the West Philadelphia Hospital for Women, etc., etc.

The closing years of the eighteenth century and the early years of the nineteenth century marked an epoch in medicine as transcendent for its welfare as the events of the past decades bespeak for the glory of the medicine of the future. The state of medicine in the eighteenth century was described as the result of deductive methods of reason, made possible because of the want of instruments of precision. Elaborate classification of disease and refinements of symptomatology which serve only to amuse and appall was the result. The sway of the imagination and the rule of theory were all powerful. Speculative modes of treatment grew out of the specious pathology. These modes of treatment were referred to. Venesection, polypharmacy, and stimulation were followed by expectant treatment and nihilism.

The limitations of the inquiry in diagnosis were outlined. Diagnosis was an intuition and an art. Cullen said theory could control observation; but medicine as a science was no higher nor lower than cognate departments of knowledge.

The development of the other sciences was outlined. Science was not applied to industrial arts at this time, and so they were carried on by rule of thumb methods. Medicine ceased to be deductive; its practice began to be scientific.

The development of medicine during the present century was outlined. Medicine has grown to be a science—a department of the science of biology. The history is the history of the application of scientific habits of thought to experiment, observation, and analysis. Medicine grew to a science by the labors of physicians who were naturalists. The influence of inductive reason on other sciences was elaborated, and its effect on theology, history and sociology stated.

Clinical medicine, as a science, embraced diagnosis and therapeutics. Methods of diagnosis of the present day require a scientific habit of mind, and skill in the use of instruments of precision. The scope and positivism of diagnosis was shown, as fifteen diseases can

*Abstract of paper read before the Section on Medicine, of the American Medical Association, held in Denver, Col., June 7-10, 1898.

now positively be recognized without any possibility of error. Diagnosis has grown to be scientific, precise, and positive. Error in method leads to error in diagnosis. Therapeutics grew to a science by the influence of various forces, all the outcome of the mode of thought of the naturalist. Natural history of disease first described; disease self limited. Science of statistics showed fallacy of determining value of drug from small number of cases. Analysis of 12,000 prescriptions showed that various drugs were called for 31,000 times, and preparations of nux vomica, iron, opium, mineral acids, cinchona and its salts, mercury, ipecac, bismuth, bella donna, arsenic, squills, hyoscyamus and digitalis were called for in one-third of the total, and if external remedies and incipients are excluded, in one-half.

Skepticism arose because too much was claimed. The more incurable the disease, the greater the number of drugs claimed to cure it. The more virtues a drug is said to have, the less its probable value. Polypharmacy was assaulted in the past, but still holds sway. The treatment of diphtheria by antitoxin the only scientifically established mode of therapeutics.

Drugs have, no doubt, an action in health and disease. Their use may be of advantage, but usually is not necessary. We need not be skeptical about the power of the drug, but about its necessity. We are robbed of the power of mental expectancy if drugs are not given. Such expectancy and hypnotism, for therapeutic purposes can be secured by an honest examination of the patient. The "lie" is not required in medicine any more than in religion, as Zola points out.

Application of science to industrial art, at the present time, shows in every department scientific methods are necessary. Brewing, iron making, leather making are no longer an art—a science. Art is gone; science holds sway. Large amounts of capital involved and great competition have forced out the element of chance as in art, and instituted the element of certainty that approaches in the science.

As the essential to the art is the science of medicine, we must educate our students to a scientific habit of thought.

1927 Chestnut Street.

CASE OF INCOMPLETE EMBOLIZATION OF THE CENTRAL ARTERY OF RETINA. REMARKS UPON CHANGES SEEN IN THE FUNDUS.

By JOHN DUNN, M. A., M. D., Richmond, Va.,

Professor of Diseases of the Ear, Nose and Throat, University College of Medicine, and Associate Professor of Diseases of the Eye, in the same; one of the Surgeons to the Richmond Eye, Ear, Nose and Throat Infirmary, etc.

Mr. A., aged 54, had, in the summer of 1895, a stroke of paralysis of the left side, from the effects of which he recovered, except that the sense of touch in his left hand remained almost completely abolished. On December 31, 1897, just after taking a hot bath, he became suddenly and completely blind in his right eye. About two hours later, I had the opportunity of examining the eye. Both pupils were of equal size; both responded to the light reflex; the right one, however, dilating more when the left one was covered than the left one did when the right one was covered. There was absolute loss of all vision for O. D., which was the seat of an unnatural but indescribable sensation of mild discomfort; both arteries and veins appeared contorted, *none of either were as yet thread-like.* The papilla showed little change, save in the size of the blood vessels in it. Faint oedema was making itself visible over the whole area lying between the superior and inferior temporal arteries; it was not, however, as yet, sufficient to bring out in strong contrast the vessels of this area. *At the macula was to be seen a faintly red, round area, having about the diameter of a small garden pea; this area had not yet assumed the cherry color it took on the following day.* The rest of the fundus showed no oedema. *Both arteries and veins at the disc, and as far as their first bifurcation after leaving the disc, were the seat of distinct movements.* In the superior temporal vein was seen a movement more or less undulatory; more than this I could not make out, owing to the patient's restlessness. During the time the patient was under observation, at this visit, some of the arteries, notably the superior temporal, grew much smaller than they were at the beginning of the examination. The following morning the retinal oedema was much more marked than on the previous day. The whole fundus, save a small area below, but beginning some distance from the disc, was now cloudy, the cloudiness being, however, more marked in the region over which it had been visible the day before. The cherry spot at the macula was now fully developed. Externally, but adjacent to the disc, was an area

about $\frac{1}{3}$ O. D. in diameter, which resembled much the cherry macula in color, but which, as yet, had not the fully developed appearance of a retinal hæmorrhage. The disc was still pinkish, although it showed over its surface a very faint cloudiness. Just below one of the branches of the superior temporal arteries, some distance above the macula, was to be seen a small area of retinal disturbance, giving the impression that the retina had, at this spot, been churned up. There was no undue redness suggesting hæmorrhage, as was the case over the area above mentioned as being near the disc. The inferior temporal artery, save just at the disc, was thread-like, broken, and hidden in part by the œdema. Its corresponding veins and branches, save just at the region of the disc, were very small, and also appeared broken. The upper temporal artery and vein were very small, but not thread-like. The vein was much contracted up to the first bifurcation, beyond which it suddenly became much wider, and appeared bluish black with serrated outlines. The upper temporal artery was thread-like beyond the first bifurcation, its two branches appearing as highly refracting minute whitish streaks in the fundus. In both vein and artery, where not reduced to mere threads, could be seen *movements of the broken column of blood*. A wave-like motion could be seen to pass along contents of the vessels, yet without the parts of the column making any permanent advance along the lumen of the vessels. This peculiar movement in the vessel walls, or of the vessel contents, was not confined to the arteries, but was visible in the veins where the walls have not yet collapsed, presenting thus an unusual appearance in the veins where, as above mentioned, the walls appeared to be serrated. The upper nasal vein was very small for a short distance, then appeared as short sections of a blood vessel, bluish-black, separated by minute intervals, for which no vessel could be seen; then again appeared thread-like. The outlines of this vein, too, were serrated. The inferior nasal vein was small at the disc, then increased in size for a distance, then became small again. Some of its branches were almost thread-like. The vessels, veins, and arteries on the disc both showed movements in the contained blood, but these direct movements had nothing markedly characteristic in them, seeming, in general, to be intermittent in character.

January 3d.—The cherry spot adjacent to disc is now a large area of hæmorrhage, one-half size of disc, and extending slightly over edge of the papilla. Œdema about disc is much more marked; œdema of the periphery

general, except in area mentioned above. Cherry spot of macula less dense than on January 1st. Except the superior temporal for a section of both bifurcations and the inferior temporal, the arteries and veins are now nowhere broken or thread-like. Disc is paler than on yesterday; pulsations still visible in the artery and veins. Outlines of the arteries show more or less irregularity, as though imperfectly filled. Patient imagines he can tell the difference between light and darkness, but his responses to the tests make this improbable.

January 6th.—The arteries have again contracted, and at places appear segmented. The upper primary branch of the central artery divides just before leaving the disc into three branches, all of which, beyond the disc, are much contracted and in places broken. The upper temporal branch near the disc appears in short sections of a minute vessel, then for about $\frac{1}{2}$ O. D. becomes almost normal in size, then again appears as a number of short, detached segments, while its two main branches are to be seen as mere whitish threads. Between the nasal and temporal arteries is given off by the main upper branch of the central artery a large artery which goes almost directly upward. *Just at the point where this leaves the main branch the artery is almost, but not entirely occluded, for the blood can be seen to pour through its narrowed lumen in a continuous stream away from the disc, the current spreading out after constriction is passed.* (This interesting picture was watched for a considerable time). It is to be noted that the visible current here is a continuous one and not intermittent, resembling the flow of blood in the lymphatics. It was from this point, taken in connection with other vascular changes, that I concluded the embolus had been stopped at the bifurcation of the central artery, a part of it extending into the upper, a part into the lower branches.

January 8th.—Further contraction of the inferior arteries has taken place, this contraction is especially noticeable in the case of the inferior nasal. Obliteration of the superior temporal artery is now complete save for a distance of $\frac{1}{3}$ O. D. from the disc. The flow of the blood in the retinal artery as seen two days ago is no longer visible. *In a small vein which enters the disc from the nasal side, can be seen a rapidly flowing blood current, the direction of the stream being toward the disc.* The hæmorrhage, above mentioned as occurring to the inner side of the disc, is breaking up; likewise is the cherry spot at the macula.

January 12th.—The retinal arteries have, for the most part, apparently regained almost their

normal size. This change since January 8th is especially noticable in the superior temporal artery, whose whole central lumen, and that of one of its occluded branches, has been restored. Area of œdema is much lessened. Marked occlusion of the main branches of the inferior temporal artery has now become the main feature of the picture presented by the fundus. A gradual enlargement and lessening in intensity of color is noticeable in the spot at the macula. Patient says he can see light if thrown on the extreme nasal side of the retina.

January 16th.—Disappearance of cloudiness from macula outwards. There is now a distinct, gradual shading of the deeper red of the macula into adjoining red of the retina.

Minute, numerous, very small glistening specks are visible about and over macula. Upper branch of inferior temporal artery closed at a point of separation from main branch; it can be seen thread-like, as it passes through an œdematous area to emerge, broken into bits separated by thread-like sections, for a short distance, and then resuming its course, large, but contracted at intervals. Nerve is getting unduly pale and white. *Hæmorrhage near disc is showing over its surface minute white points similar to those seen in macula region.* Appearance of small, whitish area below superior temporal artery, where no visible hæmorrhage has been; which spot was noticed as an area of retinal disturbance the first day the hæmorrhage at disc was seen. Probably the only cloudiness now existing is that about area of upper branch of inferior temporal artery, above described, and a small area above the inner side of macula and some about papilla. The arteries on disc have irregular outlines and no longer pursue a direct course.

January 26th.—Retinal œdema has disappeared—cherry spot at the macula no longer visible. About the macula, especially to the inner side of it, are to be seen several minute white specks—upper branch of the inferior temporal artery still occluded. Disc white, *showing no minute blood vessels on its surface.* All of the retinal vessels are diminished in size.

January 28th.—Upper branch of inferior temporal artery for a considerable distance after leaving main stem is visible only as a line; it then becomes almost normal in size. Retina in some regions has so atrophied as to show clearly the choroidal vessels.

February 2nd.—Faint traces of the hæmorrhage at the disc are still visible.

April 1st.—Inferior temporal artery is apparently the seat of a fresh embolus situated not far from its bifurcation at the papilla; appears

broken, very small, and irregular in outline. Its embolized papillary branch has atrophied entirely, and can be seen only under most careful focussing, and then only as a faint line.

June 6th.—Arteries much contracted, and very irregular in outline. Veins also contracted. Nerve white. Vision nihil.

The above case, and its varying pictures in the fundus, owe their interest to the fact that we have to do with incomplete embolization of the central artery of the retina. Observation of the case from day to day brought out some interesting facts. In the first place, œdema of the retina was beginning to be visible within two hours after the embolization took place, and did not disappear entirely for four weeks. It was first noticeable in the maculo-papillary region; later it was visible over almost the area of retinal distribution. Evidences of it remained longest visible over a region along a branch of the inferior temporal artery to the macula, and this was due to a secondary embolus which completely obliterated the lumen of this vessel, causing its ultimate complete atrophy. The well known "cherry spot at the macula," which some writers describe as being accurately confined to the *fovea centralis*, was beginning to be visible as early as two hours after the embolus was deposited. Its formation, its change in color as the œdema increased, the gradual fading away into the surrounding retina of its line of demarcation as the œdema decreased, and its ultimate disappearance, were all carefully noted. In this case, the cherry spot was in size about the diameter of a buckshot, thus not confined to the fovea. Its reddish color, when most pronounced, while suggestive of retinal hæmorrhage, provided it was viewed alone, never reached the deep solid red to be seen in the hæmorrhage at the disc. And when these two areas of red were compared, the difference was striking. In this case, there could be, after watching the formation of the cherry spot and seeing its disappearance by a gradual enlarging of its circumference as the retinal œdema subsided, no question as to its manner of formation. The case suggests that the *greater the degree of occlusion of the central artery the smaller will be the diameter of the cherry spot, other conditions being equal.* At the time this case was under observation, I had under my care a case of retinal injury where, for several months, there had been present a hæmorrhage at the macula—in diameter, about that of a buckshot; in shape, almost a perfect circle. Comparison of this hæmorrhage with the cherry spot of

embolus, showed also a marked difference in the depth of the red color of each.

In this case, there was, at no time, complete shutting off of the arterial blood supply to the retina; for, when the patient was first examined, there were visible movements of the blood contained in arteries and veins so distinct as to suggest, where the blood current was broken into short segments, the possibility of a certain amount of contraction and relaxation of the vessel's walls independent of the stimulus produced by the pressure of a current of blood filling the lumen. That the flow of blood at the point of embolization was very greatly reduced was clear; nor is it unlikely that a considerable deposit of fibrin, largely increasing the length of the original embolus, along the central artery, took place within the first two or three days. The termination of this clot in the upper branch of the central artery was probably marked by the point at which visible movement of the contained blood began. The artery centrally, from this point, must have been almost entirely occluded. The diminished blood flow between the clot and the vessel wall, on reaching the distal end of the clot, suddenly found a larger channel, and expanding, became visible. We may compare this phenomenon with the flow of water through a glass tube, the movement of the fluid within the tube being invisible so long as the tube is kept full; but let the tube be only partially filled and the movement become at once visible, and markedly so when the end of the tube is reached and the fluid runs out. This case further shows that the retinal arteries and veins may for several days at a time give the appearance of being almost empty, or so imperfectly filled, that the contained blood is seen in short, broken columns, with an almost invisible whitish line, representing the vessel walls connecting them, and yet finally regain their normal size. Complete occlusion, lasting beyond a certain time, of the vessel's lumen means atrophy to final disappearance from ophthalmoscopic view of the vessel. This occurred, as above mentioned, in the case of a large branch from the inferior temporal artery, which was plugged at its point of departure from its main stem, probably by a piece of fibrin from the original embolus in the central artery. At the end of about six weeks, this vessel was so small that it required very accurate focussing to be seen, and when seen, appeared as a line in the retina.

It is not improbable that the size of the embolus of the central artery increases for the first few days by deposit of fibrin upon it, and

that thus during this time the degree of obstruction to the retinal circulation varies. This is in accord with the varying appearances seen in the fundus during this period. Furthermore, it is not unlikely that in the case, the subject of this article, the original embolus reached as far as the bifurcation in the papilla; that either a portion of the embolus, or the fibrinous deposits upon it, extended into one or more of the larger retinal branches, and finally, that a portion of the embolus later broke off and was carried into the inferior temporal artery and plugged the main macular branch from this vessel. It is, again, within limits to believe that inflammatory adhesions between the embolus and the adjacent endothelium take place, destroying the endothelium, and, as a result of these adhesions, with secondary contractions and absorption, an imperfect lumen is restored. Changes take place in the outer coats of the blood-vessel over this area, whereby the vessel walls lose their transparency and their elasticity. Actual contraction of the vessel's diameter takes place, and the vessel, while still pervious, though with a diminished lumen, may appear, under the ophthalmoscope, for this section as obliterated. I think it is thus that we are to explain the apparently anomalous in certain cases of embolus of a branch of the central retinal artery, where the embolized vessel along the area of embolization becomes much reduced in size, while peripherally it requires its normal dimensions. One writer of considerable eminence would explain this condition by suggesting that the restoration of the circulation in the peripheral part of the vessel is due to anastomosis with the choroidal vessels beyond the point of embolization. If anastomosis between the retinal and choroidal vessels beyond the limits of the papilla ever occurs, it must be of exceeding rareness.

Examination of Mr. A.'s heart revealed an intermittent aortic murmur. There was considerable general arterio sclerosis, evidences of which were plainly visible in the sound eye.

314 E. Franklin St.

Sanmetto in Cystitis, Prostatitis and Irritable Bladder.

I have been using Sanmetto in my practice for two or three years. I have used it in a good many cases of cystitis, prostatitis, and in all cases of irritable bladder, with the most gratifying results.

R. T. HOCKER, M. D.,
Ex-President Northwestern Kentucky
Arlington, Ky. Medical Association.

Correspondence.

Taskinas—A Rival of Saratoga Water.

TOANO, JAMES CITY CO., VA.,

May 20th, 1898.

Editor of *Virginia Medical Semi-Monthly*:

A great find has been made in our county, which makes the *Taskinas* property a rival with the great Saratoga of New York, so far as mineral water is concerned. A water has been discovered that is an effective medicine as well as a delightful beverage. A stock company has been formed which will put it all over the United States as a beverage and medicine for various stomach and bladder troubles.

It is an alkaline or anti-acid water, and the sale will be immense, because the masses of our people have an excess of acid in their blood, which if not counteracted by medicine or a positive Alkaline Mineral Water, must serve as a forerunner of innumerable complaints or diseases. The water is soft and tasteless; also appetizing, and buoys one up. It is rarely the case that nature or science combines the two qualities in a mineral water, viz.: Effectiveness as a medicine and deliciousness as a beverage; but such is the case with this remarkable water.

Our State Chemist, Dr. William H. Taylor, and Mr. Lewis Burwell, of your city (who for years has been considered in this and other States as authority on medicinal waters), are both very sanguine of the popularity in store for this combination, which nature offers to invalids as well as bon-vivants.

May the period be near at hand when thousands shall find this the Saratoga of the South: Yes; we hope to see not only one but several hotels and boarding-houses at this newly-discovered Mecca in the near future.

ÆSCULAPIUS.

Messrs. Parke, Davis & Co.

Have recently issued their 1898 catalogue, which is a most valuable "Reference Handbook," in that it gives a complete list of "the newer remedies," with a statement of their properties, preparations and doses, as also the prices. We note that, in addition to the usual sugar and gelatin coating of pills, etc., this house has added chocolate-coated tablets. A number of constantly useful tables are also introduced. Thus, on pages 9 and 10 are tables of equivalents of all denominations of weight and measure—solids and fluid—based upon the metric system which the last revision of the U. S. Pharmacopœia uses altogether.

Analyses, Selections, etc.

Gelsemium—Preparations and Uses.

Dr. H. H. Nottage, Providence, R. I., writes (*Jour. Amer. Med. Assn.*, May 28) that his attention was first called to gelsemium [or the *yellow* or *Carolina jessamine*] during the winter of 1889-90 during the great epidemic of influenza. He found it so useful then that he has employed it since daily, both in general and in special practice, with quite uniform and satisfactory results. It is such a reliable drug and covers so many indications, having a rather wide range of action, that northern physicians especially should be more familiar with its properties and uses.

It is especially adapted to fevers of the *intermittent* and *remittent* type, when we do not care to use quinin. Now that malaria is creeping up the Connecticut Valley, and spreading over our southern New England States, we shall find this drug exceedingly useful in *influenza* and all forms of *catarrhal fevers*, and especially in *neurralgia*, when there is a tendency to recurrence or exacerbation on any particular day, or time of day. Let any physician stop giving quinin for every cold and try a reliable green root preparation of gelsemium, and it will quickly find its permanent place in his medicine case. The dose is small. It is not expensive, and it is certain in its action. The indications for its employment are so clear that it is best adapted for use as a single remedy. For example, he mentions the pulse as an indication and compares it with two other drugs. *Aconite* acts best when the pulse is small, quick and hard; *veratrum viride*, when it is large, full and very strong and quick; *gelsemium* when it is large, full, quick but easily obliterated by pressure. We find this pulse, usually, in fevers that tend to a stupid, comatose condition. The other two forms of pulse action are usually found in sthenic fevers with great arterial and cerebral excitement, as in pneumonia.

The drug began to be scientifically studied about 1869, but was in use long before that time. It is related that a Mississippi planter, who had an obstinate bilious fever, ordered his servant to dig up a certain root from the garden and make a tea of it. He did so, and the planter drank the tea, and was seized with great muscular prostration, but without stupor. When this left him the fever was gone. He afterward employed it successfully in those forms of fever that occur in malarious communities.

PREPARATIONS AND ACTIONS.

The plant grows in rich moist soils along the sea-coast from the Virginias to the south of Florida. The flowers are said to be poisonous.

It has been used mostly in the south and west. In France the root, fluid extract, and tincture are used and also an alkaloid, *gelsemin*. The root contains oxalate of lime, starch, gallic acid, a volatile oil, coloring matter, but especially, 1, a resinous substance; 2, *gelsemin*; 3, *gelseminic acid*.

The *gelsemin* obtained by Wormsley is amorphous, has a bitter taste, melting at about 100 degrees C.; dissolves with difficulty in water, somewhat more readily in alcohol, and readier in chloroform and ether. Its salts are not crystallizable. *Gelseminic acid* is identical with *esculin*, a glucosid found in the horse-chestnut of India (*æsc. hipp.*). As *chloro-hydrate of gelsemin* we have the active principle in crystals. In commerce we find: 1, amorphous *gelsemin*, an impure resinoid, least active; 2, pure *gelsemin*, crystallizable as *chloro-hydrate*, very active. The first form usually appears as a black liquid and is identical in toxic power with the American fluid extract. The second is a whitish-yellow crystallin powder, easily soluble in alcohol and glycerin; soluble with difficulty in chloroform and insoluble in ether. Water at 15 degrees C. dissolves one part of the alkaloid in forty parts of the liquid.

Physiologic and toxic action.—A large dose produces general prostration and paralysis of all the voluntary muscles, while the mind remains clear. The involuntary movements are unaffected. In this stage dimness of sight is nearly always present to some degree, together with drooping of the eyelids, with much difficulty in opening them. A slight degree of stupor or sleepiness is present, or what seems to be a sluggish mental condition. Next follows partial paralysis of all the involuntary muscles, first the sphincters, then the respiratory, and then the heart. During this stage the functions of the brain are not always abolished, but can be aroused by electricity and physical agitation of the body. In other cases a profound stupor is present. In some exceptional cases, when a very large dose is taken, the brain seems suddenly congested and a sort of apoplexy occurs. When death has seemed imminent, recovery has occurred under the use of stimulants and galvanism.

The nearest analogues to this drug are aconite, *veratrum viride*, conium and *physostigmin*.

The first or primary effects of *gelsemin* are similar to the secondary effects of belladonna.

Its sphere of action seems to be the motor side of the spinal cord, the brain and mucous membranes. The sensory nerves are not so profoundly affected as by aconite. Compared with strychnin, *gelsemin* causes, primarily, passive congestion of the brain; strychnin active. Like conium and *physostigmin* it paralyzes nerves of motion, while strychnin and belladonna excites both sets of nerves. *Gelsemin* produces death by general paralysis and a kind of passive apoplexy, while strychnin causes a tetanic, actively congested state of the cerebro-spinal centers. This may be said to be the primary action of these drugs. Strychnin and belladonna cause by their secondary action, general paralysis similar to the primary effect of *gelsemin* and *physostigmin*.

THERAPEUTICS.

Disorders of the circulation, headaches.—He has found it useful in the headaches which occur at the menopause, together with "flushings," the head and body hot. Sometimes the flushings are followed by profuse perspiration. *Gelsemin* controls these symptoms very well in 2 or 3 drop doses of the tincture every three hours.

Insomnia.—While the drug is by no means a direct hypnotic, yet it will relieve those patients who are plethoric, and whose faces indicate cerebral excitement following mental and physical exertion.

Sunstroke.—When there is active cerebral congestion *gelsemin* is indicated. *Meningitis*, in children especially.

Uterine engorgement and vesical irritation.—It seems to quiet the circulation in the pelvic viscera.

Spasmodic dysmenorrhœa.—Exceedingly useful. One dose of 5 to 10 drops will often give more relief than opium, and leaves no after-effects.

Rigid os uteri.—Ten drops of the tincture every half hour until relaxation.

Dysuria and spasmodic retention.—After one or two doses the catheter can be dispensed with.

Muscular spasms.—Useful in all forms wherever occurring.

Vaginitis.—In cases of a purely nervous character.

Gonorrhœa.—In the first stages when there is the usual local excitement, doses of 5 drops every three hours favor micturition and favorably influence the disease. When the discharge becomes thick, the other usual remedies must be used.

Mucous membranes.—It is especially adapted to acute inflammations of mucous membranes.

It does not act on the parenchyma of organs, but may be useful in the congestive stage because of its action on the cerebro-spinal nerve centers that govern circulation. Before pathologic changes have occurred its influence is powerful for good.

We find it is especially adapted to the *first stages of colds and local congestion of the lungs and bronchi*. For ordinary colds quinin cannot be compared with gelsemium, while for *influenza* it is a most satisfactory remedy to control the fever and the aches and pains. For the prostration give strychnin, also preferably in the form of the arseniate. During the great epidemics of 1890 and 1891, he treated many cases of this disease without quinin and only an occasional dose of an antipyretic, and the mortality was light. He remembers but five cases in the two years that died from the disease or its complications. If he saw the patient within the first day or two he immediately gave 5 drops of the tincture of gelsemium and then mixed from 10 to 20 drops in 118 c.c. of water and ordered a teaspoonful to be given every half hour until the pains were relieved. This occurred in the majority of cases in about two hours. The next morning the patient was nearly free from pain. On the third day they wanted to get out of bed. He almost always gave .0007 grams of arseniate of strychnin every two hours, and the patients recovered in good condition. When called to cases that had been sick a week or more he still found the drug useful, but never failed to give the strychnin and stimulating food. No alcoholic stimulant of any kind was ever used, as it did not seem to be required. There is a *certain variety of cold* for which gelsemium is as *near specific* as any drug can be. The patient feels cold chills running up the back. A clear watery fluid runs from his nose. Now give the gelsemium and the next morning the cold is gone.

Acute catarrhal enteritis.—Astringents are too irritating for an acutely inflamed mucous membrane. Gelsemium was used extensively during the late war for acute diarrhoea, and it has served well. For this class of cases he used bismuth until he came to know the virtues of gelsemium.

Nervous system.—In discussing remedies the question of dosage is usually passed over. Although he shall leave for the last the various methods of handling the remedy he has found most useful, he desires to contrast the dosage that he has found effective in two conditions: *vertigo and chorea*.

Vertigo.—When he has not succeeded in locating the cause in the stomach or liver, gel-

semium has had good effects in exceedingly small doses. "Let me illustrate: Mr. T. came to me in January complaining of dizziness, so severe that he had not been able to work all the fall and winter. He tried the usual treatment of good physicians. I found that he had chronic nephritis with $\frac{1}{4}$ per cent. albumin and hyaline casts in the urine. I gave him at first 2 drop doses of the tincture every two hours. This rapidly made him worse and he had to lie down. I ordered it discontinued and asked him to report when his condition should be the same as before taking the medicine. In three or four days he came and said he was about as dizzy as he had formerly been all winter. I then diluted the tincture with alcohol so that every drop of the dilution contained $\frac{1}{100}$ th drop of the tincture. He took 2 drops of this every two hours. In a week he was at work, free from dizziness. He worked about six months and had another attack, not so severe as the first. The same treatment relieved him. Several months after that he had another slight attack which was quickly relieved. He has been under observation two years and is still at work." In another case where he could find no cause for the vertigo it was promptly relieved by similar doses. He has used it in *aural vertigo* with some success.

Chorea.—When bromides, arsenic and the usual remedies fail, try gelsemium in 2 to 5 drop doses four times a day. This dose will give satisfactory results for ordinary cases, but must be varied for severe ones, or when the patient is frail and weak. A case cited from "Webster's Dynamical Therapeutics" will illustrate. "The patient, a bright boy, aged 11, has been the victim of chorea for over a year. He was under the treatment of a physician of world wide reputation for six months. He improved under his treatment, was brought home, and within a week was as ill as ever. He was unable to stand alone or feed himself. This case was given, June 3, 2 drops of the tincture four times a day. July 5 he was dismissed cured, having taken in all about 4 c.c. of gelsemium. The child has been under observation for a year, and there has not been the slightest return of the disease."

Pain.—Gelsemium is curative for pain that is *neuralgic in character*, such as ticdouloureux, intercostal neuralgia, and sciatica. It is not so useful as other drugs in pure neuralgia, but if there is arterial excitement, local congestion or malaria, it acts very satisfactory. Jurasz (Heidelberg) treated with the tincture (5 to 20 drops several times a day) five cases, of which three were facial neuralgia, one sciatic, and

one brachial. The last case had continued a year and a half, the other cases from several days to a few weeks. In every case the cure was prompt. Dr. Pelz had good success in trigeminal neuralgia, especially dental. He followed the indications laid down by Spencer Thompson, who gives 20 to 25 drops of the tincture and repeats this dose if, after one and a half, the pain has not ceased. This dose, I am inclined to think, would be rather large for the green root tinctures.

Infantile convulsions.—A better remedy could hardly be found. As a preventive when the child's face is congested and it is nervous, it acts well. By combining it with passiflora, I think that a more lasting effect is produced.

Action on the eye.—The ocular phenomena resemble those which conium produces. Ptosis is more marked than loss of accommodation, and diplopia is far more frequent. This seems to depend on loss of power of the sixth nerve, which dominates the rectus externus, and which is especially effected by this drug. Tweedy found that the alkaloid, dropped into the eye, caused at first only ciliary congestion with slight contraction of the pupils. Then dilatation ensued, whereupon the hyperemia disappeared. He has found it useful in controlling the pain and inflammation of both iritis and keratitis.

Retinitis albuminurica.—Gelsemium is useful when coming on during pregnancy.

Serous choroiditis.—It has been reported to be very useful in amaurosis, when the pupils are dilated, the accommodation is disturbed and the lids feel heavy.

Southern physicians report it valuable in cases of *intense periodical congestion, from masked ague.*

While gelsemium would appear to be indicated as a *mydriatic*, because of the short duration of the paralysis (about two hours), yet, because there is a tendency to vomiting, it is not so useful as the other agents more commonly used.

Otalgia.—I have found it useful for earache in children, without even the assistance of any local application.

Nose and throat.—Gelsemium arrests glandular secretion and catarrhal inflammation; spasm of the glottis; spasmodic croup and spasmodic asthma.

DOSAGE.

The drug has a different range of action according to the size of the dose, and this is what makes it such a polychrest among remedies, and yet, because of a certain limited range of

action, it is not a cure-all. Any drug that controls arterial circulation through the nervous system and does not greatly affect the heart, and which also changes secretion and affects muscular action, will necessarily meet many indications. *Gelsemium does all this*, and because of its certain action and adaptability for quickly dispensing it should be more widely studied.

The preparations that give the best results are the green root tinctures made by reliable firms. The granules of Chanteand are convenient, but I have not had any experience with them.

The gelsemin in the Chanteand granules is the amorphous variety, and hence the doses can be repeated frequently without fear of any sudden toxic effects that might follow one large dose in a susceptible patient.

Lethal dose.—The lethal dose of the crystallized alkaloid is from 30 to 60 milligrams; and of the amorphous, 300 to 600 milligrams; the dosimetric granules are of the amorphous variety. I do not think that the alkaloid contains all the virtues of gelsemium, judging from reports.

Small dose.—He has used from $\frac{1}{100}$ th to $\frac{1}{50}$ th of a drop of the tincture, only in cases of vertigo. Others prescribe it for a variety of symptoms, but the physicians who are most successful with the remedy, and who are satisfied with its action, in the conditions already discussed, use the medium and larger dose.

Medium dose.—A medium dose is from $\frac{1}{10}$ th of a drop to 5 drops, and acts well in the following conditions, but it should be repeated in from a half hour to an hour or two: In hot flushings, enteritis and chorea, given in medium to large doses; insomnia, meningitis, also large dose; uterine and vesical irritation and pain, given in medium dose, preceded sometimes by one large dose; gonorrhœa, la grippe, infantile convulsions and irritability during teething, iritis, keratitis, retinitis albuminurica, serous choroiditis.

Large dose.—A large dose may be said to be 10 drops or more. It should be given with the same care as *veratrum viride*. It is used in sunstroke, meningitis (sometimes), rigid os uteri, muscular spasm, spasmodic dysmenorrhœa, pain, iritis and keratitis if severe, and otalgia.

Cocain-Inebriety.

Dr. T. D. Crothers, of Walnut Lodge Hospital, Hartford, Conn., calls attention (*Phila. Med. Jour.*, May 28,) to the vast increase in the use of this drug, calling it the third great

scourge of the world, and by comparing the increase in value of the imports of 1897 over those of 1894, as well as the decrease in the retail price, he proves conclusively that it has grown much in popularity.

Cocain takers are usually over 30 years of age, and most of them have been addicted to the use of other drugs, such as morphine, etc. Often the habit is acquired by invalids who have taken it in bitters or other remedies for real or fancied ailments. Diseases of the throat, catarrhal conditions, neuralgia of the nerves of the mouth and teeth, subsequent use of cocain after surgical operations, all have their victims.

It is very popular with the lower criminal classes, because of its cheapness and the ease with which it is obtained, and the relief it gives from pain and discomfort.

There is exhilaration followed by dreamy sleep, and should these habitues be confined they become exhausted and extremely nervous. If the confinement be long they become delirious, excited, talkative, exalted, with many hallucinations of fear and dread.

Frequently cases resembling mild alcoholic poisoning, but varying much from the models laid down in the text-books, are due to cocain habit.

There are several cases cited giving examples of these manifestations.

He calls attention to other mental changes, as well as changes in the skin, eyes, heart, and digestion, giving rise to profuse sweating, dyspnea, tonic and clonic convulsions, etc.

There is great diffusiveness of speech noticed in public speakers, causing a never-ending flow of ideas without point or conclusion, as well as a tendency to dwell on minor points at length, and to leave important things undeveloped.

The personal appearance is neglected, there are suicidal tendencies, there may be dementia with confusional insanity, or the patient may die of some inflammatory trouble and cocain be never suspected as the cause.

The physiological action is comparatively unknown. It is a uniform analgesic, suspending the physiological function of the sensory cells, an excitant of the cerebro-spinal axis with a peculiar action on the encephalon, but later there is a wide range of psychical pneumonia, with variable symptoms.

The cocain-user becomes able to withstand the effects of large quantities of the drug, but usually uses it in mild forms for fear of the effects, and frequently acquires other drug habits.

The prognosis is doubtful. The drug may be removed with temporary improvement in

almost all cases, but a relapse is almost sure to follow.

The patient must be isolated. Use tonics; stimulate the action of the kidneys, bowels, and skin; avoid narcotics; and build up the brain and nervous system. Iron is useful. Infusion of cinchona bark, arsenic, hydrochloric acid, phosphates, soda, magnesia, and nuxvomica may be used with good effect. Diet must be looked into, and this should preferably be milk, eggs, fruit, grains, etc. Open-air exercise, massage, daily baths, with constant watching for 6 to 8 weeks are imperative.

Sporadic Cretinism.

Dr. Wharton Sinkler reports a case of this disease (*Phila. Med. Jour.*, June 4) which is interesting for many reasons, notably that under the use of thyroid extract, the patient grew three inches after thirty years of age; that the menstruation, which had appeared at twenty-six, and occurred scantily every three to four weeks, became regular; and that four teeth were cut.

The family history was excellent, there having been no thyroid disease in any member. During gestation, prior to the birth of the child, the mother used a machine a great deal, and took a violent dislike to an ugly dwarf.

The child was small—developed slowly. She seemed to cease growing at two years. She learned to speak early, but articulated badly. The teeth first appeared at three years. She went to school at 10 years, progressed slowly, but was interested in her work. The limbs were thick, there was malformation of the skull, and the tongue constantly protruded.

When menstruation appeared there was marked improvement along all lines, though no treatment had been used.

The patient was ordered 3 grains of desiccated thyroid gland three times per day, and between the dates of December 12, 1895, and November 30, 1897, there were the changes as above noted.

Recognition and Treatment of Early Myxœdema in Childhood.

The following is an abstract of a paper read before the Section on Diseases of Children of the American Medical Association, during its session in Denver, Col., June 9th, 1898, by Dr. Frederic Bierhoff, of New York city: He first drew attention to the occurrence of goitre in children, accompanied by few, or none, of the more pronounced symptoms of myxœdema, as it occurs typically in the adult; and then expressed the belief that, in cases exhibiting a

spontaneous enlargement of the thyroid, we have to deal with the early stage of a cirrhosis, and that, where the enlargement is not general, the change is probably due to a simple hypertrophy of the functioning portion of the gland, as the result of the degenerative changes in the remaining portion. He further remarked that these changes were the earliest symptoms of a condition which would, if allowed to go on untreated, eventually develop into typical myxedema. The use of thyroid extract was advocated in all cases of thyroid gland enlargement, excepting in those cases which presented the symptoms of exophthalmic goitre, if only as a trial; and the writer cited cases in which, as the result of such treatment, the tumor had entirely disappeared and the mental status of the patient had been remarkably improved.

The Place of Hydrochloric Acid in the Treatment of Diseases of the Stomach.

Dr. Boardman Reed, of Philadelphia, Pa., presented a paper with the foregoing title to the Section on *Materia Medica and Therapeutics*, of the American Medical Association, during its session in Denver, Col., June, 1898.

The writer held that the time had come for a precise statement of what hydrochloric acid could do in cases of diseases of the stomach. He claimed that it should no longer be administered indiscriminately in all dyspeptic conditions, but that it is distinctly harmful in all cases in which there is an excess of the same in the gastric juice—that is, in hyperchlorhydria and in acid gastric catarrh. It is unsafe to give hydrochloric acid on the theory that it must do good as an antiseptic even if not needed as a digestive. In conditions of hydrochloric acid excess in the stomach, the drug administered in the usual way has been shown not to exert any antiseptic influence. Riegel was quoted in support of this view.

Coming to the positive side of the question, the writer maintained, and cited numerous authors in defence of the statement, that hydrochloric acid is not only valuable as a palliative in cases in which the acid is deficient in the gastric juice—*atonic dyspepsias generally*—but also as a reconstructive tonic in cases of gastric catarrh not yet progressed to entire atrophy of the glands. The paper contained the report of four cases in which the administration of hydrochloric acid, combined mostly with pepsin, had been instrumental in restoring a normal or nearly normal secretion of the peptic glands after they had for a long time so far failed in

their function as to furnish a very deficient gastric juice. In some of the cases, massage of the abdomen had been also a large factor in the result, but in others only dilute muriatic acid, with exercise and care of the diet, had been depended on.

Milk-Mixtures as Food for Infants.

In the Section on Diseases of Children of the American Medical Association at Denver, Col., June 9th, 1898, the Secretary, Dr. Edwin Rosenthal, of Philadelphia, Pa., read a paper on this subject. He considers milk as the only true method of feeding the infant. He spoke of the artificial methods in vogue, as coming nearer and nearer to the natural, and dwelt at some length on the different methods of modifying milk and what led to it. The milk laboratories' product is the best by reason of their methods and also by reason of understanding better the technique required. The first to use milk mixtures, the so-called modified milk, was Biedert, then followed Cætner's modified milk, the fat milk, or, as known to commerce, the Mother-Milk. In our country, Rotch is the pioneer. His methods, with formula and the way of writing prescription for milk were given. Modified milk could be ordered from the laboratory in the same way as a prescription could be ordered from the apothecary. As, however, the element of cost entered largely into the use of this food, and as it could not be used by all, the doctor gave a method of home modification. He also gave the uses of certain foods for the same purposes, as the Imperial granum and Mellin's food. By the latter method, analysis has proven the method to be as good as the modified milk of the laboratory manufacture. As is frequently the case, some accident may arise that will necessitate the change from the supply house; it is therefore always best to be able to modify the milk at home. The rules for the use of food depends not so much upon the quality of the food itself as upon the ability of the infant to digest it. Good rules to follow are to watch the stools, and if by their color, consistency, or the presence of undigested matter, the food is found not to be the proper one, alteration is in order. The doctor laid particular stress upon the use of salt in the food, and gave the formula of his own method of modification. If the milk used is of the right quality, the addition of water with salt—so slight as hardly to be perceptible—and the application of heat not too long applied, will often alone be found a sufficient modification for a beginning food for the youngest infant.

Book Notices.

Atlas of Methods of Clinical Investigation, with an Epitome of Clinical Diagnosis and of Special Pathology and Treatment of Internal Diseases. By Dr. CHRISTFRIED JAKOB, formerly First Assistant in the Medical Clinic at Erlangen. *Authorized Translation from the German.* Edited by AUGUSTUS A. ESHNER, M. D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc. *With 182 Colored Illustrations upon 63 Plates, and 64 Illustrations in the Text.* Philadelphia: W. B. Saunders. 1898. Cloth. 12mo. Pp. 259.

Some time ago, we announced that Mr. Saunders would publish an English edition of the world-famous *Lehmann medicinische Handatlas*. "For scientific accuracy, pictorial beauty, compactness and cheapness, these books surpass any similar volume ever published." Such was the claim of the publisher. Such, in reality, is the fact so far as anything we have seen is concerned. The plates and illustrations in the volume before us serve the teacher and pupil every purpose of the lecture-hall in appreciating the points made at the bedside. Facing each page of plates is a full page of explanatory text. So full of accurate detail, stated in tersest language, is this book that it is hard to review it. To be appreciated, it must be seen; and when examined, we feel sure that the doctor who has the cash, and who is still interested in practice, or seeks to know how to make correct diagnoses, will not let the opportunity escape to possess himself of it. We are more than pleased with this most valuable English reproduction.

Compendium of Insanity. By JOHN B. CHAPIN, M. D., LL. D., Physician in Chief, Pennsylvania Hospital for the Insane, etc. *Illustrated.* Philadelphia: W. B. Saunders. 1898. Cloth. 12mo. Pp. 234. \$1.25 net.

This book is written in clear untechnical language, so that its descriptions may be appreciated by lawyers and laymen. But the doctor is not to infer from this that the work is less serviceable to him; for its chief characteristic is that it contains a clear, concise statement of the clinical aspects of the various insane conditions which assist in diagnosis. This feature is greatly helped by the photographs of typical cases, properly grouped, for differential diagnostic purposes. The *Compendium* is likewise valuable to the physician because of the therapeutic suggestions and the directions as to the most approved methods of managing the

insane. Indeed, the work is for practitioners, and does not attempt to go into details or full discussions as to the degree of mental responsibility in given cases—all such matters being left to works that deal more fully with the medico-legal aspects of insanity. The book, just as it is, supplies a real need.

Modern Gynæcology. By CHARLES H. BUSHONG, M. D., Assistant Gynæcologist to Demilt Dispensary, New York, etc. *Illustrated Second Edition, Enlarged.* New York: E. B. Treat & Co. 1898. Cloth. 12mo. Pp. 404. Price, \$2.

The publishers have placed this "treatise on diseases of women, comprising the results of the latest investigations and treatment in this branch of medical science" at the head of their list of "medical classic" hand-books. One acquainted with the first edition might have anticipated that its popularity would demand a second edition. We are especially pleased to have such a book because, while it in no way underrates the work of the laparotomist or surgeon, it does show to the general practitioner and family physician how great a service he may render in the cure of many of the diseases of females without radical operation. So that, in the enlarged and revised second edition now before us, we find so much of real value, we have only to repeat what we said with reference to the first edition: "We most cordially commend Dr. Bushong's book for adoption as the guide-book of the general practitioner." We oftentimes wish that we could call a halt upon operative gynæcologists as to their unnecessary surgery and induce them to learn some lessons well taught in this excellent book for practitioners.

Manual of Hygiene and Sanitation. By SENECA EGBERT, A. M., M. D., Professor of Hygiene and Dean of the Medico-Chirurgical College of Philadelphia; Professor of Anatomy, Physiology and Hygiene in Temple College, etc. *Illustrated with Sixty-three Engravings.* Lea Brothers & Co., Philadelphia and New York. 1898. Cloth. 12mo. Pp. 368.

As medical science progresses, one becomes more and more convinced of the value of the "ounce of prevention rather than the pound of cure." And the time must come when all such matters as pertain to prevention of disease will be given over into the hands of the educated physician rather than to politicians or broken down "one-horse doctors." The application of the laws of hygiene and sanitation to the health of cities and communities requires professional services of the highest order—not less impor-

tant and not deserving less salaried compensation than the highest official of the town or city. All the leading medical colleges of the day, as well as most of the State Boards of Medical Examiners, are recognizing the vast importance of hygiene and sanitation, so that now the demand is for text-books which present authoritative teachings that are up to date—that at least present the essentials which may guide the student to a thorough appreciation and understanding of the subject. Of such class-room text-books none is better suited than the volume under notice. It has several important recommendations. The chapter on foods is excellent—giving an immense deal of practical information in a few pages. That on ventilation and heating is first-rate, and is, indeed, a chapter which we wish architects as well as doctors would read. No less valuable is the chapter on removal and disposal of sewage. Indeed, all parts of the book are well up to date, well written so as to be easily intelligible, sufficiently illustrated to make clear different designs, and the book itself would make a most excellent text-book for the medical colleges.

Editorial.

Examination of the U. S. Marine Hospital Service Soon to be Held.

The following circular letter from the Treasury Department relative to the examination of applicants to the grade of Assistant Surgeon in the U. S. Marine Hospital Service has just been issued:

TREASURY DEPARTMENT,
OFFICE SUPERVISING SURGEON GENERAL,
MARINE HOSPITAL SERVICE,
Washington, D. C., June 3, 1898.

A board of officers will be convened at Washington July 6th, 1898, for the purpose of examining candidates for admission to the grade of Assistant Surgeon in the U. S. Marine Hospital Service.

Candidates must be between twenty-one and thirty years of age, graduates of a respectable medical college, and must furnish testimonials from responsible persons as to character.

The following is the usual order of the examination: 1. Physical; 2. Written; 3. Oral; 4. Clinical.

In addition to the physical examination,

candidates are required to certify that they believe themselves free from any ailment which would disqualify for service in any climate.

The examinations are chiefly in writing and begin with a short autobiography by the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery and hygiene.

The oral examination includes subjects of preliminary education, history, literature, and natural sciences.

The clinical examination is conducted at a hospital, and, when practicable, candidates are required to perform surgical operations on the cadaver.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur.

Upon appointment, the young officers are, as a rule, first assigned to duty at one of the large marine hospitals, as at Boston, New York, New Orleans, Chicago or San Francisco.

After five years' service, Assistant Surgeons are entitled to examinations for promotions to the grade of Passed Assistant Surgeon.

Promotion to the grade of Surgeon is made according to seniority, and, after due examination, as vacancies occur in that grade. Assistant Surgeons receive sixteen hundred dollars, Passed Assistant Surgeons two thousand dollars, and Surgeons twenty-five hundred dollars a year. When quarters are not provided, commutation at the rate of thirty, forty or fifty dollars a month, according to grade, is allowed.

All grades above that of Assistant Surgeon receive longevity pay, ten per cent. in addition to the regular salary for every five years' service up to forty per cent. after twenty years' service.

The tenure of office is permanent. Officers travelling under orders are allowed actual expenses.

For further information, or for invitation to appear before the Board of Examiners, address

SUPERVISING SURGEON GENERAL,
U. S. Marine Hospital Service.

The Medico-Chirurgical College of Philadelphia,

Having petitioned for an amendment to its charter so as to give it power to confer the degrees of *Graduate of Dental Surgery* and *Graduate of Pharmacy*, versus exceptions made by the Philadelphia Dental College to restrain them from so doing, Judge James Jay Gordon

has rendered an opinion in favor of the first-named institution. He says, in concluding his decision, that the powers asked for in the amendment are, so he thinks, already included in the chartered rights of that college; but for the improvement and clarification of the charter, the amendment asked for is proper, and should be allowed. That even if the court had doubt as to this view, still the amendment asked for should be regarded as a proper one, and within the scope of judicial power, and that it would be granted. That the petition would therefore be allowed, and a decree made accordingly.

Homœopaths Desire to be Recognized in the Army and Navy.

According to the *New York Medical Journal*, (June 4, 1898), homœopathic physicians from different sections of the country have been somewhat worried by the apparent discrimination against them by both the Army and the Navy. Many of the members have applied for commissions, but until now, their applications have met with little or no success. Quite recently, a representative delegation of the followers of Hahnemann visited Washington, and were presented to President McKinley for the purpose of making known their troubles. Dr. Christine, who acted as spokesman for the party, stated that, if no law prevented, it was the desire of the homœopaths to be placed upon an equal footing with graduates of the other schools of medicine. As the fact was developed that there was no law to prevent them from becoming surgeons and assistant surgeons, the President promised that there would be no further discrimination against the homœopaths.

St. Louis Medical Gazette

Is the name of a new independent monthly medical journal edited in St. Louis, Mo. Price, \$1.00 a year. The intention of the publishers is to make their journal of practical use to the general practitioner, without being under the hampering influence of faction, school, or society. If the success with which the *Gazette* should meet is to be judged of by the well-known capabilities of her editorial staff, a bright future lies before her. The first issue contains a great deal of reading matter, and the general make up of the *Gazette* gives every indication of a high-toned, up-to-date magazine.

Dr. J. C. Hurst, of Allisonia, Va.,

Has removed to Pulaski, Va., where he purposes to continue the practice of his profession.

The Medical Examining Board of Virginia

Will hold its Spring Meeting at the Capitol building, in Richmond, June 21-24 inclusive. The members of the Board will meet at 8 P. M., June 21st for routine work, and all applicants for license to practice in Virginia must be present in the Hall of the House of Delegates at 9 A. M., June 22d. The examination will occupy the hours from 9 A. M. to 7 P. M. for three days, there being examinations on three subjects each day, each of which will last three hours. Applicants may register with the Secretary, Dr. R. S. Martin, Stuart, Va., prior to the 21st, in order to prevent hurry on that day.

The Journal of the American Medical Association

Has proven to our full satisfaction that in the matter of a quack advertisement (referred to in our last issue) which *Printer's Ink* said the *Journal* would accept, a gross forgery has been committed against the *Journal*. We therefore take great pleasure in making public our most sincere regret that we were led astray in our opinion by the false publication in *Printer's Ink*. The *Journal of the American Medical Association* publishes a fac simile of the correspondence between that office and that of *Printer's Ink*, which shows how grossly wrong was the latter named publication in its statements about the former. We only regret that we did not see the clear proof, as presented in the *Journal*, in time to prevent our reference to the matter in our May 27th issue.

Wholesale Experiments in Yellow Fever Prevention.

It has been reported that the army medical authorities have prepared a large supply of yellow fever antitoxin, and that all the unacclimated troops sent to Havana, and other parts of Cuba, will be inoculated by way of prophylaxis, and also that a thorough test of the curative properties of the serum will be made in all cases originating in the island.—*The Sanitarian*, June, 1898.

Lying-in Hospital of Medical College of Virginia.

This College has recently bought a residence on Broad street, in this city, which will be converted into an obstetrical hospital.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

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10 Cents a Copy.

Original Communications.

SIGMOID SURGERY FROM THE INTRA-ABDOMINAL AND INTRA-PELVIC STANDPOINT.*

By J. G. CARPENTER, M. D., Stanford, Ky.

Diseases of the sigmoid have long remained in practical obscurity. In November, 1885, scientific truths observed in the living subject concerning the sigmoid cavity were narrated and made a part of historical discovery by the writer. The pathologist only knew diseases of the sigmoid as malignant growths or benign neoplasms, or a possible sigmoid stricture, ulceration, fecal impaction, and what is now shown by Carpenter's sigmoidoscopy as a sigmoiditis with or without ulceration, was supposed to be a proctitis or a colitis—the pathologist only dealing with diseases of the sigmoid as a post-mortem observation. Now with sigmoidoscopy (Carpenter's) we not only explore the rectum in its entirety, but illumine the sigmoid cavity, and by ocular inspection diagnose polypi, pus, stricture of the sigmoid, diminution of its lumen from encroachment of a tumor by pressure or even fecal impaction of the sigmoid cavity, as well as the local inflammations peculiar to it.

It is surprising how little rectal specialists know about sigmoidoscopy or sigmoid surgery from the intra-abdominal standpoint. Even recent text-books in surgery, gynecology, and on diseases of the rectum and anus, do not mention sigmoidoscopy or sigmoid surgery from the intra abdominal side.

Mathews hints at cutting down on the sigmoid to remove a foreign body through the opening and closing the incision at once, though he has never seen a case reported, and we must infer he never had a case. Our observations have been that the rectal specialist

has never seen over four inches into the rectum, while country doctors, and especially Professor Kelly's Kentucky backwoodsman, the essayist, has been seeing into the sigmoid twelve inches from the anus, diagnosing and treating intra-sigmoid diseases since November, 1885.

Divulsion of the anus for disease is generally considered as a muscle operation, when, in truth, it is nerve stretching primarily, and secondarily a muscle operation.

Rectal surgeons must learn that divulsions of the sphincters, besides the paretic and therapeutic effects on the lower end of the rectum and anus, causing rest, making the anus patulous and allaying irritability, curing pathological lesions and doing massage, have another function, viz., nerve stretching of the fourth sacral and inferior hemorrhoidal nerves, thereby cutting off connection between the spinal cord, the levator and sphincters, and placing at rest the bladder, rectum, vagina and perineum.

It is to be hoped that rectal surgeons will be able to learn this great truth and give the author due credit for the discovery.

The writer was informed about a year ago that a Louisville surgeon, in trying to illuminate the rectum and sigmoid cavity, punched a hole with what is called Kelly's sigmoidoscope into the sigmoid and entered the peritoneal cavity, and had to do immediate abdominal section, to sew up the hole. Had this surgeon used Carpenter's sigmoidoscopy, which is simplicity itself, that hole would have never been punched. He who knows how to do sigmoidoscopy does not need Kelly's superfluous and dangerous outfit, and he who has to use Kelly's ways should never attempt sigmoidoscopy.

A prominent rectal specialist in Kentucky, operated upon an aged gentleman, about 60 or 65 years, for internal hemorrhoids, and said he would be well in three weeks. At the end of this time the patient was a corpse from cancer of the upper rectum and sigmoid ag-

*Abstract of a paper presented in the Gynecological Section of the American Medical Association, during its session in Denver, Col., June 8th, 1898.

gravated by operation on the piles. Had the specialist used Carpenter's position and sigmoidoscopy before operation, he would have been a wiser surgeon, and not a sadder one now, and his prognosis would have been in keeping with his pathological knowledge.

Mathews, in his book, gives a picture of a patient in Sims' posture, with Mathews speculum and electric lamp within the mouth of speculum. The picture presents a nice aspect, but if Professor Mathews saw anything the essayist has been unable to find it out.

Can we reach into the sigmoid with the finger? Professor Mathews states: "I am satisfied that if the patient be a short female, and is directed to strain down, and the elbow of the surgeon is pushed by an attendant, the end of the finger can be passed into the flexure." Unfortunately for science, Professor Mathews does not tell us how short the female must be, how much she must strain down, how much pressure (horse power) the attendant must use on his elbow, or how long or short the surgeon's finger should be. We must stand on scientific truths and not superfluous generalizations.

Professor Mathews gives a treatise on "accumulations of feces in the sigmoid, cancer, stricture, foreign bodies in the sigmoid," etc., but no where does he mention Carpenter's posture and sigmoidoscopy; even Gant & Kelsey's books are minus this important discovery and immense aid to diagnosis and differentiation of sigmoid diseases; even our best text-books in surgery and gynecology are deficient on this subject.

Volvulus of the sigmoid is often difficult to diagnose, especially if the patient has been buttoned with opium. The symptoms of volvulus of the sigmoid are former constipation, difficult to relieve, attended with distention and tenderness of the abdomen, or alternating with diarrhoea, or following free purgation. Severe exercise, indigestible food in large amounts; age of patient as a rule about 20 years; more often in the male than the female; palpation may outline the volvulus; vomiting is often a prominent symptom; accumulation of fluid in the abdominal cavity; at a late stage of the strangulation, failure of the bowels to act from purgatives or rectal enemata or inflation with air. Rectal enemata, even with patient in the Carpenter posture, will generally return if the hydrostatic pressure from the rectal side of volvulus does not distend and cure it. By sounding, or air inflation, or hydrostatic pressure, the sigmoid may become lacerated on its peritoneal side, and leakage

into the peritoneal cavity results with infection by the comma bacillus and other micro-organisms and toxins, and rapidly produces a septic peritonitis. As delay and much taxis are highly dangerous to the welfare of patient and integrity of a strangulated hernia, so are palpation and rectal instrumentation with procrastination dangerous to life and integrity of bowel in volvulus of sigmoid. Early diagnosis, early preparation, quick, early, life-saving surgery, short anaesthesia with minimum of shock under thorough asepsis and before structural diseases have occurred, ought to save the patient's life.

The diagnosis being made of an intra-abdominal lesion demanding surgery, open the abdomen in the median line if necessary, tap bowel with hollow needle, or do enterotomy to let out gas or contents—with patient on left side. A short mesentery or intestinal adhesions, a constricting band or diverticulum, or structural changes in the bowel may greatly complicate withdrawal of the loops of intestine. The bowel may be not only highly inflamed with linear tears of the serosa, but gangrene and beyond where the two flexures of bowel have been twisted on each other may demand a section.

If the bowel is healthy, replace it to its normal position and stitch the upper end of the sigmoid to the left side of the abdomen, that portion of bowel opposite the mesentery, or, as Senn states, shorten the mesentery, establishing a fold parallel to the axis of the gut. If the flexure is gangrenous in spots, the bowel must be resected; if gangrenous in its entirety, resect the whole flexure and unite bowel end to end by suture, Senn's entero-anastomosis, Murphy button, or do artificial anus. If the time is short, and anaesthesia is making rapid inroads on the vitality of patient, do the latter operation, as it is attended with less shock, done with more haste, and suits more cases. Then later on do the radical operation.

Stricture of the sigmoid from various causes demands similar life-saving surgery, according to the surgical demands and structural changes that have taken place in the bowel.

If a foreign body becomes lodged in the sigmoid, and removal per anum is impossible, an abdominal section with enterotomy must be done for its removal.

In malignant disease of the sigmoid we may be able to resect the growth as Price, Senn, and Bull have done, do an anastomosis or an artificial anus operation, the surgeon deciding on the condition of patient at the time of operation and kind of intestinal surgery suited to each

case, and his ability to do quick life-saving surgery.

That the sigmoid becomes seriously involved in intra-pelvic disease there is not an iota of doubt; that it has not been written upon by prominent gynecologists and authors of prominent text-books is surprising. Dr. Joseph Price for years has demonstrated in his surgical clinics the lesions of the sigmoid, complicating surgical gynecology, and volumes might be written on surgical complications he has presented from time to time. Those who know Dr. Price best know he does pelvic and abdominal surgery without the Trendelenburg posture, but he has the "tactus eruditus" to a higher degree, and can see more with his fingers through a two-inch abdominal incision and discern more intra-pelvic pathology than many surgeons can see with their eyes through a six or twelve-inch incision and patient in the Trendelenburg position. How common is it for the sigmoid to complicate tubal and ovarian disease. The Fallopian tube, through leakage or infection in salpingitis, hemato and hydro and pyosalpinx, or ruptured tube in ectopic pregnancy, causes a local peritonitis of the left pelvis with a sigmoiditis serosa and adhesions to ovary, tube, uterus and bladder; or an ovaritis "*per se*" may cause adhesion to the sigmoid and become embedded in the broad ligament—the tube being, in part or *in toto*, nested with the ovary and sigmoid; or there may exist an ovarian or broad ligament cyst, fibroid or dermoid, and adherent to the sigmoid. Again, a pus tube may be adherent to the sigmoid on the left, bladder in front, uterus to the right, intestines above and broad ligament below; or an ovarian abscess, or multiple abscesses with pus tube may complicate the sigmoid wall and the abscesses encapsulated in the pelvis by the sigmoid, bladder, uterus, broad ligament, and intestines and omentum above, or these abscesses may from time to time, through pressure, attenuation, and maceration of the sigmoid wall, perforate the latter as well as the vagina, uterus, bladder or peritoneal cavity, and leak, or discharge and drain into the sigmoid cavity, and the patient's life be saved by drainage and evacuation per sigmoid, rectum, and anus.

Often has the writer seen Dr. Joseph Price curette the sigmoid wall, removing pyogenic debris down to the mucosa, healthy tissue; then repair this or these weak places by approximating serosa to serosa, with the Lambert or continuous suture. Again, he has seen this illustrious surgeon curette a sigmoid ulcer through a perforated sigmoid wall or excise

necrotic spots with the longitudinal axis of the bowel, and again repair the bowel with serosa to serosa, taking the Lambert stitch through the serosa and muscularis of the sigmoid wall with the finest silk thread and needle.

One great reason why some abdominal surgeons have had great mortality following their work is, that the needle and thread used to repair intestinal lesions have been too large, more like that of a darning needle and thread.

These surgeons have been afraid to hunt for and find sigmoid and other intestinal complications, and if found, could not sew them. Every physician who contemplates doing surgery should serve an apprenticeship in sewing with some good tailor or seamster, and have a skillful needle and scissors technique that comes only by practice, study and observation. Every graduate should be examined specially on this, and the repair of gut lesions before receiving his diploma. The writer was raised on a large blue-grass plantation in Kentucky, and his mother used to make him take sewing and tailoring lessons when a young boy to keep him out of mischief; and his mother's sewing lessons taught him in childhood have been the greatest blessing to him in doing surgery. The most delicate, refined and gentle sewing to be done is sewing the intestine for pathological lesions; and in plastic surgery one reason why intestinal suturing is so successful in skillful hands, viz: in inflammatory and traumatic lesions, is that if proper approximation of serosa to serosa is done, adhesion, inflammation or agglutination of the serosa begins at once, and continues until definitive healing has been done in a few days; then with fine needle and sutures there is no leakage.

Furthermore, the writer has seen Dr. Price excise or resect the sigmoid for stricture or malignant disease or benign neoplasm and anastomose with the Murphy button, or intestinal suturing, or make an artificial anus when the strength of patient, the anæsthetic and duration of operation would not permit of a surgical procedure of greater magnitude.

The best surgeons always try to do life-saving, and not ideal surgery; for the latter is fatal surgery and should be done only in the dead house where amateur surgeons should begin to operate. It is a great thing to know just how much surgery the patient needs, how much can be borne with safety. One had better do incomplete life-saving and operate at another time for complete life-saving surgery rather than do the "ideal" and lose the patient. The writer has seen the sigmoid, ovary

and tube and appendix vermiformis adherent in one mass—the appendix stretching across the pelvis to sigmoid; also the uterus retroverted upon the tubes and ovaries in Douglas' pouch and sigmoid; bladder tubes and ovaries internally adhered, so that it required the gentlest touch and manipulation and caution to find a point of cleavage and proper separation of the diseased organs without perforation. Furthermore, the essayist has seen uterine fibroids and dermoids attached intimately to the sigmoid as well as to the transverse and ascending colon and appendix vermiformis, omentum and mesentery, ovarian abscesses opening through the lower sigmoid and upper rectum with subsequent healing and contraction of the fistulous ulcers, and scars have produced stricture of the bowel at these points.

The writer had the fortune, or misfortune, to operate for appendicitis and organic stricture of sigmoid at the same anæsthesia. The sigmoid was extra long and the stricture was relieved by the Murphy button anastomosis. The appendix was dilated to the size of the thumb at its cæcal end, inflamed and filled with soft feces, and fecal appendoliths which required immediate appendisectomy.

In conclusion, the essayist states that all surgeons who do prompt life-saving surgery will meet sigmoid and other intestinal adhesions that must be promptly separated, and there must of necessity be more or less serious intestinal lacerations that must be repaired with as much precision and judgment and gentleness as a stab or gunshot wound of the stomach or intestine; and he who can skillfully and successfully repair these traumatisms will save more lives than he who does dashing surgery and neglects these intestinal lesions—trusting to nature.

To repair these lacerations takes time, patience and perseverance, strong will power and fortitude.

The essayist expresses the most sincere and profound thanks to Drs. Price, Senn and Murphy for the valuable lessons learned through them in surgery and surgical pathology.

The University of Michigan a Beneficiary.

Dr. Elizabeth H. Bates, who died recently at Port Chester, N. Y., has bequeathed property worth \$135,000 to the University of Michigan at Ann Arbor. The bequest is to yield \$6,000 per annum with a view of establishing a professorship for the diseases of women and children.

LEGAL RELATIONS OF MANIA.*

By EDWARD C. MANN, M.D., F.S.S., New York, N. Y.

Physician in Chief to *Sunny Side Private Hospital for Mental and Nervous Diseases*; Author of "*A Manual of Psychological Medicine*," etc.

It is important for the lawyer to bear in mind the following points relating to mania:

1. In mania, consciousness, memory, and reason may remain intact even in the midst of the most violent paroxysms. The patient is whirled about in an emotional storm.

2. The maniac's senses are deceived and confounded. Illusions and hallucinations of sight are very common.

3. The persons with whom the insane man associates are apt to derive their characters from his delusion.

4. Real impressions on the organs of sense become, as in dreams, the materials of imaginary scenes.

5. The strange antics of the insane man are the effects of his delusion.

6. The violence of the madman is often not the effect of mere passion, but of his delusion.

7. The maniac, if of a reserved disposition, or when impelled by a strong motive, can conceal his delusion.

8. The acts of the maniac often evince the same forethought and preparation as those of the sane.

9. The maniac, in spite of his cunning, is easily imposed upon and managed.

10. Maniacs in confinement are often conscious of their state, and know the legal relations in which it places them.

In deciding medico-legal questions, it is quite necessary to know that these are some of the leading characters of mania.

The lawyer should be aware of the fact, which at times is of considerable medico-legal significance, that mental disease may arise as a result of the revolution of the system in either sex, occurring at puberty. Masturbation also causes it; uterine or ovarian disease likewise. The condition of gestation or pregnancy may give rise to it. Mental disease may appear after parturition, when it is termed puerperal insanity, and it is not at all uncommon in a mild form. Obscene words and self-accusations of impropriety and delusions connected with sexual matters are all common at this time. The period of lactation may be associated with mental disturbance. The climacteric period in women not uncommonly

*From advance sheets of the *Second Edition* of the work on Medical Jurisprudence of Insanity, by permission of the author, to be published in a few weeks.

gives rise to nervous troubles which may end in insanity. Insanity may be among the sequelæ of fevers. The rheumatic and gouty poison may cause insanity at times. Syphilis and phthisis may both give rise to and be associated with mental disease, and alcoholic insanity is very frequent, and is accompanied by hallucination of hearing and other hallucinations. Finally, we have the insanity of old age or senile dementia.

MANIA TRANSITORIA OR TEMPORARY INSANITY.

In these cases, which are of great interest, as they are often before the courts for the commission of overt acts, hereditary predisposition is to be placed at the head of causes, for, as Marc says of insanity in general, it plays so marked a character in the production of this malady, that whenever there is a possibility, in a medico legal investigation, of demonstrating its existence, it is sufficient almost of itself to establish the reality of a lesion of the understanding, or to weaken considerably the possibility of its being feigned.

Dr. A. Devergie, a most eminent alienist of France, in a paper read before the Imperial Academy of Medicine, entitled "Transitory Homicidal Mania: When does Reason End or Mania Begin?" in the *Journal of Psychological Medicine and Mental Pathology*, No. XVI, says: "Those physicians who have devoted themselves to the treatment of insanity, admit that, besides dementia, mania, and monomania, there exists an instantaneous transient insanity which they call transitory, and as the result of which, an individual, until then, in appearance at least, of sound mind, commits suddenly a homicidal act, and returns as suddenly to a state of reason. It would be easy to quote a hundred authors of recognized pre eminence in psychological medicine to the effect that such an affection as temporary insanity really exists. The authorities on medical jurisprudence are likewise decided upon this point, and the fact is accepted every day by courts of law. It is unnecessary, therefore, to adduce further support to the doctrine."

Dr. Wm. A. Hammond says: "There is a form of insanity, which, in its culminating act, is extremely temporary in its character, and which, in all its manifestations, from beginning to end, is of short duration. This species of mental aberration is well known to all physicians and medical jurists who have studied the subject of insanity. By authors it has been variously designated as mania transitoria, ephemeral mania, temporary insanity, and

morbid impulse. It may be exhibited in the perceptive, intellectual, emotional, or volitional form, or as general mania. The exciting causes of temporary insanity are numerous. It may be induced by bad hygienic influences, such as improper food, exposure to intense heat, cold or dampness, or to a noxious atmosphere, by undue physical exercise, by disease of the heart, by blows upon the head or other parts of the body, by certain general and local diseases, by the abuse of alcoholic liquors, by the ingestion of certain drugs, such as opium, belladonna, and hasheesh, by excessive intellectual occupation, by loss of sleep, and, above all, by great emotional disturbances.* Among these latter, religious excitement, grief, disappointed affection, and especially anxiety, by which the mind is kept continually on the stretch, tortured by apprehensions, doubts and uncertainties, by which it is worn away more surely than by the most terrible realities.* The predisposing causes are to be found in the individual as an inherent part of his organization. They consist in a hereditary tendency to insanity, or to some other profound affection of the nervous system, or of an excitable nervous temperament, which is incapable of resisting those morbid influences which persons of phlegmatic disposition would easily withstand. Thus all men are not affected alike by disturbing causes, because all men are not cast in the same physical or mental mould. A circumstance which will produce insanity in one person will scarcely ruffle the equanimity of another. The immediate cause of temporary insanity is the disease itself, of which the mental aberration is simply the manifestation. No fact in medical science is more clearly established than this, of the action of the emotions on the circulation of the blood in the brain. This form of insanity is known as transitory mania.

"It may be defined as a form of insanity in which the individual, with or without the exhibition of *previous notable symptoms*, and with or without obvious exciting cause, suddenly loses the control of his will, during which period of non-control, he commonly perpetrates a criminal act, and then as suddenly recovers, more or less completely, his power of volition. Attentive examination will always reveal the existence of symptoms precursory to the outbreak which constitutes the culminating act, though they may be so slight as to escape superficial examination."

Dr. Jarvis, in a paper published in the *Amer-*

*Italics are the authors'.

ican Journal of Insanity, for July, 1869, says of mania transitoria: "This is a form of mental disorder which suddenly appears in a person previously sane or not supposed to be unsound in mind; it has a short duration and suddenly disappears. This is not exclusively a new or an old doctrine, but it has been taught in France and Germany and other countries and by managers of the insane and by writers on these topics. It is recognized by the psychological authorities of Great Britain, and is admitted by courts and juries having the management of persons who have committed acts which otherwise would have been considered as criminal, and for which they would otherwise have been doomed to death by the scaffold."

Dr. Castlenau, in the *American Journal of Insanity*, concludes that "there exists instantaneous changes in the mental faculties." "Mania instantaneous, temporary, transitory, fleeting, a mental disorder which breaks out suddenly like the sudden loss of sense by some physical disease; the subject is urged in a moment to automatic acts which could not have been foreseen."

The late Dr. Ray, an alienist of the very highest character, said: "Yet sometimes, especially on the operation of a powerfully exciting cause, it breaks out suddenly and terminates in a few hours. It has been called transitory mania, or instantaneous mania." Again he says, in cases like that of Mercer: "When a man destroys the seducer of his wife, sister, or daughter, we often see the influence of the insane temperament, and the effect has been very much in determining the quality of the act. We also know, as a matter of no very infrequent experience, that insanity may be produced instantaneously by a profound moral shock. If a person might be deprived of his senses on a piece of good news, or of the death of one very near and dear, is it strange such results would follow what is calculated, above all others, to stir the soul to its utmost depths? What the mental condition actually is must be determined by evidence in the case, and any doubt there may be, we may be quite sure, will be given in favor of the accused."

All writers on medical jurisprudence and insanity, whose opinion is worth quoting, concur in the existence of mania transitoria, and, personally, I have seen so many examples of it that I should as soon be incredulous about the existence of typhoid fever as of the existence of transitory mania. Those persons are the most apt to exhibit mania transitoria who exhibit a predisposition to insanity, whose general health

is impaired from any cause, who are naturally nervous and excitable, who have been subjected to any great trial of their feelings in any way to cause them to dwell much on the subject, to lie awake nights on account of it, and then have added the application of a great and sudden excitement of some strong emotion, as great emotional disturbances are the most powerful exciting causes of this form of mania. I think a careful alienist could, in these cases, if he could see them before the commission of an overt act, always detect premonitory symptoms of an attack, but it is not at this stage that a person receives any medical thought or supervision. The act of violence is the first manifestation of the disease of the body affecting the mind by deranging its functions, which constitutes insanity, that the public sees, and prejudice or ignorance very often denies, what to a physician is perfectly evident.

In transitory mania, the control which the intellect normally exercises on the will is, for the time, destroyed, and the overt act is the result of an automatic impulse. It appears without premonition, and disappears as quickly as it came. It is a discharge, in the convulsions of the brain, perfectly analogous to that of epilepsy, and very frequently there will be no more recollection of the occurrence than the epileptic has. Indeed, a case of "*petit mal*" is the very case to be transformed on the moment into a case of transitory mania upon the application of even a slight exciting cause, and the existence of the lesser form of epilepsy should be diligently sought for by both physician and jurist in every such case. Many women, while menstruating, have their nervous systems so overwrought that any great emotional disturbance would be very likely indeed to precipitate an attack of instantaneous mania, especially if such a woman had inherited a predisposition to some form of nervous or mental disease, and there would be perfect irresponsibility for any overt act committed during such a state, in our opinion. Finally, I do not myself believe that transitory mania ever manifests itself suddenly and for the first time in a person of a perfectly normal mental calibre—like a flash of lightning out of a clear sky. I cannot but think that if the history of the individual be carefully traced, there will generally be discovered some evidences of antecedent latent mental aberration, either inherited or acquired.

AS TO WHAT CONSTITUTES INSANITY.

Judge Edmunds once gave this very able definition of sanity: "A sane man is one whose

senses bear truthful evidence; whose understanding is capable of receiving that evidence; whose reason can draw proper conclusions from the evidence thus received; whose will can guide the thought thus obtained; whose moral sense can tell the right and wrong of any act growing out of that thought; and whose acts can, at his own pleasure, be in conformity with the action of all these qualities. All these things unite to make sanity. The absence of them is insanity."

Recorder Hackett, in the case of *The People v. McFarland*, 8 Abb., N. S., 92, said: "A state of sanity is one in which a man knows the act he is committing to be unlawful and morally wrong, and has reason sufficient to apply such knowledge and be controlled by it."

Most maniacs have a firm conviction that all they feel and think is true, just, and reasonable, and nothing can shake their conviction.

PREGNANCY FOLLOWING VENTROFIXATION, WITH IMPROVEMENTS IN TECHNIQUE.*

By A. LAPHORN SMITH, M. D., M. R. C. S., Eng.,
Montreal, Canada.

Fellow of American Gynecological Society; Professor of Clinical Gynecology, Bishop's University; Gynecologist to Montreal Dispensary; Surgeon-in-Chief of Samaritan Hospital for Women; Surgeon to the Western General Hospital, etc.

The conclusions of the paper are based upon about 2,500 cases by forty-one operators, including 111 cases of the author, reported in reply to a circular letter of inquiry.

1st. That as far as curing retro displacements is concerned, whether retroflexion, retroversion, ante flexion with retroversion, and also prolapse of the uterus, ventrofixation with two buried silk stitches passing through peritoneum and fascia, gives the most reliable results. Failures are unknown when the operation is performed in this way.

2d. Ventrofixation should be reserved for cases in which abdominal section is necessary for other reasons, such as detaching of adhesions and the removal of the diseased tubes which caused the adhesions. When it is expected that pregnancy may follow, some other operation should be chosen, because—

3d. Although pregnancy only followed in 148 cases out of about 2,500, still in 30 per cent. of these, or 36, there was pain, miscarriage or difficult labor requiring obstetrical operations.

4th. When suspensio uteri was performed—

that is, when the uterus was attached to the peritoneum—only a few relapses occurred; but, on the other hand, the patients were free from pain during pregnancy and the labors were less tedious; neither did they require resort to serious obstetrical operations. The uterus should, therefore, be suspended rather than fixed to the abdominal wall in all cases in which any part of the ovary is allowed to remain.

5th. A third method, it is claimed by some—namely, the intra-abdominal shortening of the round ligaments—is preferable to either ventrofixation or suspensio uteri. This may be done either by drawing a loop of the round ligament into the loop which ties off the ovary and tube; or, in cases in which the latter are not removed, simply detach them from adhesions and shorten the round ligament by drawing up a loop of it and stitching it to itself for a space of about two inches. By this means the round ligament develops as pregnancy advances, and the dragging and pain and other more serious accidents which are present in 30 per cent. of the cases of ventrofixation are certainly avoided.

6th. If the uterus is attached to the abdominal wall, the stitches should be kept on the anterior surface, but near the top of the fundus. The complications were more frequent when there was too much anteversion than was the case when the anterior surface of the fundus was attached to the abdominal wall.

7th. As large a surface as possible should be made to adhere, by scarifying both the anterior surface of the fundus and the corresponding surface of the abdominal peritoneum, in which case one buried silk suture will be sufficient to keep the uterus in good position.

8th. Several of my correspondents mentioned incidentally that they knew of many cases of pregnancy after Alexander's operation, and that in no case was the pregnancy or labor unfavorably influenced by it. Alexander's operation should, therefore, be preferred whenever the uterus and appendages are free from adhesions.

9th. The results of Alexander's operation are so good, that even when there are adhesions it might be well to adopt the procedure of freeing the adhesions by a very small median incision and then shortening the round ligaments by Alexander's method; after which, the abdomen should be closed. This could be done without adding more than one-half of 1 per cent. to the mortality, which in Alexander's operation is nil.

250 Bishop Street.

* Author's Abstract of Paper read before American Gynecological Society at Boston, May 24, 1898.

APPENDICITIS—A POSSIBLE CAUSE—THE USE OF THE LIGATURE—IS IT NECESSARY?*

By WM. T. OPPENHIMER, M. D., Richmond, Va.,
President of City Board of Health, Richmond, Va., etc.

The subject for the evening's discussion, as announced in the notices, was appendicitis. I do not wish to take in such a vast subject—only to confine myself to the cause, the results of inflammation, and certain procedures for relief.

I have often been twitted for pressing the theory that so many diseases were due to the accumulation of gas in the intestinal canal. Possibly 50 per cent. of all cases of sickness are due to some irregularity, imprudence, or defect in digestion.

The question is asked, Why do we hear so much more of appendicitis now than formerly? I would answer that the disease was not so well known, and that possibly as much existed then as now, but under different names—*e. g.*, many cases formerly diagnosed as peritonitis were fulminant appendicitis. But, nevertheless, I claim the disease is more frequent now. Possibly the cause may lie in improper food. Bread is the most common food, and the common baking powder used has caused more and different varieties of indigestion than formerly, probably affecting the digestive juices. I bring this out, although I have no statistics to prove it, for I believe that appendicitis is nothing more than indigestion in the appendix. Authorities on the subject refer to the blood vessels, sex, etc., when naming the causes.

The point I wish to make is that it is the result always of an accumulation of gas—never of plugging of the artery or sloughing. I believe that the capillaries are so numerous that even with blocking of the artery collateral circulation is soon established.

In every case of appendicitis the patient is more or less dyspeptic. It may even be his first attack. The resulting gas accumulating in the cæcum, the appendix becomes blown up and its orifice is blocked. In recurrent cases, the orifice may be more and more narrowed with each succeeding attack, until it is finally occluded; the circulation is cut off entirely if the distance is great, and sloughing results.

In forcing gas into the cæcum, the appendix is more distended at its apex than elsewhere, and least at its orifice, because of the presence

of circular muscular fibres. Constant pumping in of gas may result in partial closure only, and adhesions may form; but when there is complete closure, the fulminant variety is produced, and, going on, protective abscesses. This statement regarding closure in the fulminating form must be so, because where the appendix is filled with pus, if it were not entirely sealed, there would be drainage into the cæcum, and it would be recurrent. To attest my belief in it, I have performed appendicitis operations without using the ligature. Of course, in the recurrent form, where the operation is done between the attacks, the ligature should always be applied. The danger from it is that it might not be applied near enough to the cæcum, leaving pus which may result in septicæmia, peritonitis, etc. In safe hands, the operation is less dangerous without than with the ligature.

The points I have stated are altogether different from those heretofore brought forward, and I would like for the gentlemen present to think of them.

Why do more men than women suffer from appendicitis? The reason given by an authority is that in the latter sex the appendicular circulation is reinforced by a branch from the ovarian artery. I contend that it is because the circular muscular fibres around the orifice of the appendix are stronger in the male, the tension is greater, and, therefore, closure is more likely. I do not deny that the circulation in women may supply more blood.

The points brought out have great bearing on the treatment—namely, food. Indigestion of all forms should have the closest attention, for the first seizure may bring on an attack of appendicitis.

Correspondence.

The Dignity of Advertising.

Mr. Editor.—Some people apologize before they speak, some after, others never. I have no grievance, and do not feel as though standing on quicksands about to engulf me, because, as manager of an ethical journal that pays dividends, I have no fear of criticism. The *New Orleans Medical and Surgical Journal* has maintained a dignified attitude towards the medical profession for more than fifty years, and has no commercial feature attached to its reading pages, and is one that insists on *all* the formula being given. As Business Manager, I have spent years in visiting the profession and attending

* Read before the Richmond Academy of Medicine and Surgery, May 24, 1898.

medical meetings in many States. This close contact with all grades of medical men has given me a practical experience. I do not expect you to agree with me entirely, but ask you to think of these things.

There can be no dignity in any calling where payment is not demanded from those able to pay. A doctor who accepts an apology in payment of a first visit and makes another, when the party is able to pay, lowers the dignity of his calling. He puts a cheap price on his services, and in a few years complains of lack of appreciation from the public. There must be a charge to those able to pay, and payment insisted upon, or else medicine and misery will die together.

There are doctors living in towns of five thousand, surrounded by rich agricultural lands, who do not collect 50 per cent. of their bills, and dare not send a second one for fear of offending. It is the lack of dignity which produces this sad condition, and the doctor has only himself to blame. It may also be caused by the narrowing influence on a mind by continuing in only one line of thought, and no business ability. Too many physicians know a little medicine and nothing else. When a man of this class finds himself outstripped by a well educated, broad minded, successful medical brother, he oftentimes stoops to undignified methods and lowers his calling in the eyes of the public.

The most undignified and harmful thing a doctor of this class can do is to start a medical journal, not to disseminate medical knowledge, but to down some one. He surrounds himself with a clique on a par with himself, and never stops to think of the vengeance of his confreres. This bombastic clique, whose editor is a Cook's tourist specialist, does not know the difference between a paid write up and a scientific article, but that makes no difference—they have failed as practitioners of medicine, so start a journal, God save the mark! to fill a long felt want and an early grave. Journals of this class are started every month, and some publishers extend the "glad hand," but it is with a sad heart I view their "maiden efforts," well knowing that Volume II will never appear.

This set have departments in their publication presided over by assumed specialists, who can diagnose a tumor a thousand miles away, and are ready to go, night or day, and remove it. Such an organ has no weight or influence among intelligent people. The business management of this journal is turned over to the youngest man in the clique, because he has

more time. The first thing he does is to trade his best space for a set of dishes (108 pieces, I believe, was the offer), because he needs them. This management does not pay the printer, so the long felt want and the early grave are both filled after a few issues.

The most undignified, but still ethical, is the set who own a publication and run a sausage mill medical college attachment, which grinds out graduates. The dean of one of these in a small city has done over fifty operations for appendicitis in one year, and his neighbor, a very young man, over one hundred laparotomies. Where is the dignity of advertising such? If his more favored brother in larger cities operated in proportion, the human race would soon be devoid of much of its anatomy.

If publishers would only recognize the fact that all journals cannot be great, but might at least be honest, they would, in time, build a local support which would pay the printer and give their subscribers some value for their money. A journal that is not paid for can have no value, dignity, or influence.

In making a trip through Florida, I saw in most of the doctors' offices a journal that has the largest circulation in America, and was told many times they never thought of paying for it. This is the journal that must be referred to in the Bible—Numbers xxiv: 14—which says: "I will advertise what these people will do to thy people in the latter days." This wonderful publication can diagnose cases by mail, and always recommends what the Editor owns stock in or is advertised in his journal. Is it not a serious question, a vital one, what this journal will do to the people?

The journal that sells the top of its title-page, in my opinion, has sold its birthright, and the one that accepts three dollars per month for the lower half of the front cover never had any. Some journals are so hard up for paper—they give from five to twenty journals for an article, and tell the writer he can send in the names of friends and it will be sent free for a year. They publish their Postoffice receipts, which look large to the uninitiated. On the strength of this, they get advertising, but the advertiser soon finds he gets no returns, because a journal that is not paid for has no value and is not read. An advertiser in one of the large cities recently showed me a number of requests for samples of his preparation that had come in from an ad. in one of these journals, and when I told him that most of the doctors requesting samples sold them to patients and beat him out of just that much money, he seemed surprised. When it

is remembered that a postal card will bring samples of almost everything made, a sample request cannot be taken as a criterion of value, for many physicians not only get a great deal of medicine that way, but their literature as well.

A journal that accepts anything but cash soon finds its office looking like a second-hand store, and its pages are devoted to advertising these articles at bargain-counter prices. Is there any dignity in this? Where is the dignity of a colored insert in the body of the journal. Does it embellish a good article? *Never*. I am glad to notice a growing disposition on the part of the best doctors to turn down a journal of this kind.

There are only a few pharmaceutical houses in America, and nearly every product put out by them has been counterfeited. There are constantly springing up in all sections unscrupulous parties who are putting on the market, with no capital but cheek, substitutes of every remedy in the Pharmacopœia. The number of journals and the number of houses is entirely out of proportion, and so, as in all things, it is a survival of the fittest, the weak ones go down, doing some damage to legitimate publications and lowering the dignity of a sacred calling.

The religious press will be damned forever, and should be by the medical, for their undignified advertising to diseased minds and bodies of "sure cures free" by returned missionaries. These human hyenas sometimes have offices in the Bible-houses, and prey upon human misfortune. Their prescription, given free, calls for an ingredient no one has but themselves, and they take what they can get for it, according to the need and pocket-book of the unfortunate; and they go on robbing from year to year.

It is said there are necessary evils in this world; the medical advertising agent seems to be one of them. But allow me to ask, what has he done to elevate the dignity of advertising in medical journals? There are a few agencies that handle legitimate business in a dignified way, but most of them cause dissensions and separate business relations between houses and journals which should be close, by making all sorts of promises that cannot be fulfilled. Contracts done with all kinds of conditions that the self-respecting journals cannot comply with. I had occasion to call on an agent recently in New York, in regard to a contract he had sent three times, and it had been as often returned. When I explained to him the necessity of the full formula being

given, he said *he* had written the formula, and it was enough for anybody, and many journals had accepted it. Unfortunately, the last statement was true, and some had surrendered all dignity and allowed him to run their business.

I had a page ad. from an old established house for years, but through the interference of one of these agents, shortly after he came into the field, I had none. The advertiser asked, why? My answer was, too much agent. He handed me a new contract, and we are now good friends. This proves that a house will drop an agent when they learn he is detrimental to their interests. Agents never know when they have enough, never stop taking, and, to use a trite expression, play both ends against the middle, and laugh at the journals for allowing the business to run. On the other hand, they never lose a chance to cast reflections at a journal with a rate-card which is strictly adhered to. Where is the dignity of allowing some one else to run your business, at your loss and their profit? One man who handles the business of a large firm told me he cared nothing for simply an ad., what he paid for was what the journal published in their reading pages. He was much surprised when I refused to contract because I would not let him dictate the terms. This man was not wholly to blame for this, as some publications had surrendered all dignity and accepted his offers.

In my opinion, a dead publisher who knew his space was worth so much, and get it, is worth a hundred live ones who will allow the agent to jolly them along and get their best space for a song, and he does the singing. The publisher who has surrendered to the agent is at his mercy for any new business.

Some agents get from thirty to fifty per cent. on all business for a number of years. They hire a good solicitor for a few days, pay him a few dollars, let him go as soon as he brings in enough contracts, then sit in their office and live off the journals that were weak enough to agree to allow them so much commission. If weak publications would only learn it, it is impossible for any agent, firm, or house to kill an established publication that has maintained a high standard, it would save much of the unfortunate, undignified bickerings that goes on.

There is no dignity in running a dead ad. No dignity in not collecting promptly. None in accepting stock in payment. And none in taking ads. with strings to them. Low rates and liberal discounts invariably denote small and valueless circulation.

I believe that the time will come when the

subscription-list and legitimate house will support the dignified, ethical journal.

H. C. SMITH,

*Business Manager New Orleans Medical
and Surgical Journal.*

Proceedings of Societies, etc.

RICHMOND ACADEMY OF MEDICINE AND SURGERY.

Meeting held May 24, 1898. Mark W. Peyser, M. D., Secretary and Reporter.

Appendicitis—A Possible Cause—The Use of the Ligature—Is It Necessary?

Dr. WM. T. OPPENHIMER read a paper on this subject. [See page .]

Dr. Virginius Harrison said the statement of Dr. Oppenheimer that he did not think a mucus plug could cause appendicitis, would be more true of gas. He had heard Dr. Deever say that indigestion was from appendicitis, not the reverse. So far as the arterial supply is concerned, it would take some time for constriction to occur. In one operation for the disease he had found pus without occlusion, the reverse of Dr. Oppenheimer's experience. He had seen gas come into the cæcum in the fulminating form. If the appendix be twisted in any way, it would cut off its only supply. Most authorities hold that the opening is not obliterated except in a few cases, and he thought it preferable to run the risk of ligating than the consequences without it.

Dr. Ed. McGuire considered it exceedingly dangerous not to ligate. He said if there were a necrotic appendix, the ligature would keep up suppuration, or would cut through, exposing the patient to the risk of hemorrhage. No ligature should be put around the appendix, but the latter should be cut out of the cæcum, which is then stitched as any other portion of the bowel that has been perforated. If there was an inflamed appendix, what harm could a ligature do? It would be buried and no trouble would result. Robinson says it is more frequent in men, because of the development and friction of the psoas against the appendix, but it is also frequently found in boys. In fact, he believed the fulminant form was more apt to be found in children.

Dr. H. S. MacLean said that Van Cott found enteritis obliterans in twelve cases of appendicitis, and made the statement that the disease might occur from this condition, be-

cause the supply is a terminal one, and there is no anastomosis. The idea of distension by gas is a unique one, but repeated overdistension ought to produce a flabby appendix, and he had never seen one. Would not the thickening tend to overthrow this theory? Fowler always uses a purse-string suture inverting the stump, and thereby avoiding that dangerous thing, a ligature around the appendix.

Dr. Hugh M. Taylor agreed with the last two speakers regarding the use of the ligature. Infection in the appendix affected the arteries, resulting in the obliteration of a poorly-nourished structure. Almost anything would produce this, as shortening of the already short mesocolon, angulation of the appendix, etc., producing diminishing resistance and a suitable soil for invasion.

Dr. Wm. S. Gordon said he had thought a great deal about the cause of appendicitis. Some time ago, Dr. Hunter McGuire had made a diagnosis of the disease, because, as he said, he did not know what else could be the trouble. The patient was brought in a comatose condition. The appendix was not badly inflamed, but its removal was attended with almost instantaneous relief of the nervous symptoms. Is it an adenoid structure, as has been claimed, and being so, has it secreting power? If so, might it be supposed that with age it undergoes some retrograde change and becomes functionless? Children and youths are more liable to typhoid. We know the exciting cause, but what is the predisposing?

Dr. Jacob Michaux said he had not had much experience in appendicitis, but in it several circumstances were in accord with Dr. Oppenheimer's point of view. In two cases he had found necrosis near the cæcal end. In the first, the belly was distended with pus, and the appendix had sloughed off close to the intestine. In the second case, which was similar, the pain was always referred to the cardiac end of the stomach. There was tenderness over the appendix, but no pain except upon deep pressure. In the third case, which was evidently of long standing, the appendix was elongated, contained no pus, but was so thickened that the lumen was almost obliterated.

Dr. Ramon D. Garcin stated that of four cases of appendicitis occurring in his practice, three illustrated Dr. Oppenheimer's idea of the etiology. None required operation, and all three were due to indigestion. The most typical was that of a woman attacked with acute indigestion from eating raw peanuts, demonstrating the presence of gas.

Dr. Taylor remarked that this case showed

indigestion to be the predisposing cause, but the distension operated by shutting off the blood supply.

Dr. J. S. Wellford said he would like to hear Dr. Oppenheimer's view as to the organization of the disease in some other portion of the intestinal tract and its extension to this less resistant organ. He could not see why an organ having such a limited function, if any, should produce such an enormous percentage of deaths, and thought the explanation was, that more cases than supposed have peritonitis. He believed that one reason why it was less frequent in females was because it was confounded with pelvic cellulitis.

Dr. Oppenheimer, in closing, said the latest edition of the *American Text-book of Surgery* stated that the theory regarding the appendicular circulation was not proved. The proposition that he offered was not a theory, but an actual fact, proved by pumping air into the cecum, and the pain resulting may be in any part of the intestine—*i. e.*, where pressure is greatest. This being so, why should it not be equally true of the appendix? In one case, in which he operated, as soon as the incision was made, the appendix, which was inflated, sprang up like a bladder. The more the appendix was inflated the smaller became the orifice until at last it was closed completely. Gas could not go higher than the transverse colon, and the ileum would be distended more than the colon, because the latter has stronger coats. Each recurrent case is a partial closure, then there is a leaking backward of the gas, and recovery results, until an attack occurs in which there is complete occlusion and a fulminating attack is the consequence.

AMERICAN MEDICAL ASSOCIATION.

The session held in Denver, Colorado, June 7-10, 1898, was the most largely attended of any session of the Association except the Centennial one held in Philadelphia. In hospitality, Denver redeemed every pledge made. The entertainments provided for the 1,332 doctors registered as in attendance, beside some 500 ladies—wives, daughters, and sweethearts—were elaborate in the extreme. The railroads west of the Mississippi especially were most generous—none of them charging more than one cent a mile with stay-over privileges up to July 1st. Visits to Georgetown, "Around the Loop," to Colorado Springs, to the top of Pike's Peak, etc., etc., were among the pleasures pro-

vided by the Committee on Entertainments, without charge to the visitors. Receptions were numerous and most cordial. The only two States that do not appear to have been represented by the attendance of any member were New Hampshire and Florida.

Our space allows only a running account of the session.

The President, Dr. George M. Sternberg, Surgeon-General U. S. Army, was prevented from attending by reason of his official duties in Washington. But he committed the presentation of the

PRESIDENT'S ADDRESS

to his friend, Col. Woodhull. He advocated "in order that every physician of good professional standing may enjoy the privileges of membership" of the American Medical Association, that Permanent Members should be elected upon application "without reference to their membership in State, County, or District Medical Societies, when they present satisfactory evidence that they are graduates in medicine of reputable standing in the profession, and are willing to subscribe to the code of ethics of the Association. "In other words, I would not exclude a reputable physician from membership because the State, County, or District Medical Society to which he belongs declines to adopt our code of ethics," if he individually is willing to be governed by the regulations of this Association.

The medical profession has suffered more from ignorance of its members than from attacks of irregulars or quacks. There are those who still speak of us as "old school physicians," ignorant apparently of the fact that scientific medicine is, to a great extent, of very recent origin, and that all, or nearly all, of the great discoveries have had their origin within the ranks of the regular profession. If we are to be characterized by any distinctive name, the only one applicable would be "*the new school of scientific medicine*." We have given those opposed to scientific medicine too much rope in allowing them to publish all sorts of misleading statements without our taking the trouble to contradict them or to educate the people. If the educated in the profession would answer such false statements as have circulation in the newspapers much good might result. It should be our aim to remedy such evils by elevating the standard of medical education by impressing upon the rising generation of physicians the importance of laboratory work; and also by instructing the public with reference to the present status of scientific

medicine—the difference between fact and fancy—between the vagaries of imagination and the demonstrable results of scientific investigation.

Improved methods of teaching demonstrate that reading medical books and listening to lectures is not sufficient preparation for the practice of medicine, any more than the reading of books on navigation would be for the responsible position of captain of an ocean steamer. Laboratory courses are a most essential part of the medical curriculum—showing as they do the imperfections of our unaided senses, and the small value of opinions in comparison with facts capable of demonstration.

Physicians too often fail to recognize the value of negative evidence as opposed to deductions made from facts coming under their immediate observation. "I have investigated," I have not found; consequently it does not exist," is the attitude of the unscientific but self-satisfied man, and often leads to mistakes which are not only discreditable to the individual, but damaging to the profession of medicine. It is likewise unscientific to give a positive opinion in advance of the evidence.

The best method of counteracting the mischief of premature or unfounded opinions is by united action on the part of the more enlightened members of the profession in behalf of truth and progress.

The time at the disposal of the writer is inadequate to set forth the present status of scientific medicine, but he said enough to justify the claim that we are *not* "old school doctors;" and to show that medicine has not been slow in taking advantage of improved methods of research, and in establishing itself upon the basis of facts, demonstrated by experiment and observation with instruments of precision. There is no room for creeds and pathies in medicine. Every man is entitled to his own opinion upon any unsettled problem; but if he entertains an opinion in conflict with ascertained facts, he simply shows his ignorance. No restriction is placed upon a regular doctor as to the mode of treatment he should pursue in any given case. But if his patient dies from diphtheria because he failed to administer the proper remedy, or if he recklessly infects a wound with dirty fingers or instruments, or transfers pathogenic streptococci from a case of phlegmonous erysipelas to the interior of the uterus of a puerperal woman, the courts should have something to say as to his fitness to practice medicine. No matter where or when he obtained his medical degree, such a practitioner can scarcely be said to belong to the modern

school of scientific medicine. We must not fail to recognize, however, that the progress of knowledge has been so rapid that it is impossible for the busy practitioner to keep pace with it; and that even the requirement now generally adopted by our leading medical schools, for a four years' course of study is inadequate for the attainments of such a degree of professional knowledge and practical skill in diagnosis and therapeutics as is desirable for one who intends to practice scientific medicine.

RUSH MONUMENT FUND.

Dr. A. L. Gihou, Surgeon U. S. Navy (Retired), Chairman of the Rush Monument Committee, reported that on adjournment of the Session of the American Medical Association last year in Philadelphia,

The Committee had.....	\$4,262 45
Paid in during the year only.....	162 00
Interest to date.....	150 00
Colorado State Medical Society now adds.....	2,000 00
New York Medical Association now adds.....	2,000 00
Medical Society State of Pennsylvania now adds.....	2,000 00
Maine Medical Association now adds.....	100 00
Ohio State Medical Society now adds.....	336 00
Indiana State Medical Society now adds.....	500 00
California State Medical Society now adds.....	110 00

Grand total now in hand..... \$11,620 45

Dr. Henry P. Holton, of Brattleboro, Vt., on request of the Committee, was elected Permanent Treasurer of the Fund.

REPORT OF TREASURER OF ASSOCIATION.

Dr. Henry P. Newman, Chicago, Ill., Treasurer of the Association, reported that the year ending December 31, 1897, found the Association with an addition of about 1,400 new members. Receipts during the year were \$32,200. Balance on hand, \$14,002.85, with a sinking fund of \$3,000. Report accepted.

During the Second Day, the *Annual Address on Medicine* was delivered by Dr. J. H. Musser, of Philadelphia, Pa., announcing as his topic

AN ESSENTIAL OF THE ART OF MEDICINE.

The state of medicine in the eighteenth century, he said, represented the result of deductive methods of reason made possible because

of the lack of instruments of precision. Speculative modes of treatment grew out of specious pathology. Diagnosis was an intuition and an art. Medicine as a science was on a level with cognate departments of knowledge. Science was not applied to industrial arts at this time, and so they were carried on by rule-of-thumb methods. But medicine ceased to be deductive; its practice began to be scientific; and now medicine has grown to be a science—a department of the science of biology—by the labors of physicians who were naturalists. Methods of diagnosis of the present day require a scientific habit of mind and skill in the use of instruments of precision. The positivism of diagnosis was illustrated by reference to the fact that at least fifteen diseases could now be recognized positively, without any possibility of error. Therapeutics has grown to be a science by the influence of various forces—all the outcome of the mode of thought of the naturalist. Statistics show the fallacy of determining the value of a drug from a small number of cases. An analysis of 12,000 prescriptions showed that preparations of nuxvomica, iron, opium, mineral acids, cinchona and its salts, mercury, ipecac, bismuth, belladonna, arsenic, squills, hyoscyamus, and digitalis, are called for in one-third of the total; or if external remedies or excipients are excluded, in one-half of the whole number. Polypharmacy still holds sway. The antitoxin treatment of diphtheria is the only scientifically established mode of therapeutics. Drugs might be of advantage, but usually they are not necessary. We need not be skeptical about the power of a drug, but about its necessity. If robbed of the power of mental expectancy, drugs are not given. Such expectancy and hypnotism for therapeutic purposes could be secured by an honest examination of the patient. The "lie" is not required in medicine any more than in religion, as Zola has pointed out. Application of science to industrial art at the present time shows that in every department scientific methods are necessary. Art has gone; science holds sway. The large amounts of capital involved and great competition has forced out the element of chance as an art, and has instituted the element of certainty, that is approached in science. As the science of medicine is essential to the art of healing, we must educate students to a scientific habit of thought. The truths of medical science and their practical application are cosmopolitan. Law is estimated by political barriers; religion by race and mental development; but the promulgation of truths in medicine or the establishment

of a method of its art affects for good the entire universe—not only man, but all animal creation. The adamant position secured to the labors of Lister, and Koch, and Pasteur; the advanced state of preventive medicine at this day; the scientific method of treatment of disease, as seen in that of diphtheria; the vistas that are opening with the advent of organotherapy, show the dawn of a new science of medicine. Unfortunately, this generation is to witness the dawn only; as to what the high-noon of medicine will show, we only have the whisperings.

RESOLUTIONS INTRODUCED.

By Dudley S. Reynolds, Louisville, Ky.: That no teacher, college, or professor, which shall confer or receive a degree which does not conform to the standard of the Association should be permitted to become a member or to send delegates to the Association. Referred.

By Dr. J. Richard French Stone, of Indianapolis: To assign his patents for the official badge of the Association to its Trustees, who shall have the sole right to manufacture the same. Referred.

By Dr. Humiston, of Ohio: On national legislation; to found a home for superannuated and impoverished members of the Association; to appoint a committee to examine and correct school text-books. Referred.

By Dr. Henry A. Marcy, of Boston: That State Medical Societies should so time their annual meetings as not to conflict with the date of holding the National Association.

By Dr. Sanders, of Mobile: That a national public health system, applicable to all parts of the country, be created and put into vigorous operation by act of Congress. Referred.

By Dr. Bailey, of Kentucky: That in view of the great increase of business of the Association, the office of Permanent Secretary be created at a salary of \$2,500 a year, and that the present incumbent be retained with the title of Honorary Secretary. Referred.

By Dr. Gould, of Philadelphia: That the Association approves of the organization of State Medical Libraries, and that the *Journal of the American Medical Association* be sent to such libraries gratuitously. Referred.

During the Third Day, Dr. Alonzo Garcelon, of Maine, presented the

REPORT OF THE TRUSTEES OF THE ASSOCIATION.

The Board is now an incorporated body. The total receipts of the Association during the

year ended December 31, 1897, were \$64,522.71; expenditures, \$25,637.67.

NEW YORK STATE MEDICAL SOCIETY.

Dr. H. A. Hare, of Philadelphia, introduced the following resolutions, offered at the Baltimore Session, two years ago, and had, under the rules, been laid over for one year, and for some unknown reason, had not been acted upon:

"Resolved, That the American Medical Association invites the New York State Medical Society, the Medical Society of the County of New York, the New York Academy of Medicine, and other good Societies in good and regular standing, to send delegates to this Association, who will be received and accredited on proper credentials from the officers of such Societies; and

"Resolved, That all acts or ordinances contrary in spirit or letter are hereby rescinded."

Dr. W. T. Bishop, of Harrisburg, Pa., raised the point of order that if these resolutions were adopted, the organic law of the Association would be contravened. The organic law provided that there should be but one State Medical Society in the same State, and but one County Society in the same county.

Vice-President Dr. T. J. Happel, of Tennessee, in the chair, sustained the point of order and proceeded with other business.

THE FOLLOWING OFFICERS

were selected for the ensuing year:

President—Dr. Joseph McDowell Mathews, of Louisville, Ky.

Vice Presidents—Drs. W. W. Keen, of Philadelphia, Pa.; J. W. Graham, of Denver, Col.; H. A. West, of Galveston, Texas; J. E. Minney, of Topeka, Kansas.

Secretary—Dr. William B. Atkison, of Philadelphia, Pa.

Treasurer—Dr. Henry P. Newman, of Chicago, Ill.

Librarian—Dr. Geo. W. Webster, Chicago, Ill.

Members of Judicial Council—Drs. S. S. Bailey, of Iowa; D. R. Brower, Chicago; H. D. Diddams, of New York; D. Mason, Washington, D. C.; F. T. Rodgers, of Rhode Island; M. B. Ward, of Missouri; and W. S. Jones, of New Jersey.

To Deliver the General Addresses:

Medicine—Dr. J. C. Wilson, of Philadelphia, Pa.

Surgery—Dr. Floyd W. McRae, of Atlanta, Ga.

State Medicine—Dr. D. R. Brower, of Chicago, Ill.

The Address in Surgery was delivered by Dr. John B. Murphy, of Chicago, Ill., who selected as his subject *Surgery of the Lungs*. In an early number we will try to find space for a full synopsis of this original paper, the truths of which, if they can be carried out in a practical manner by the general surgeon, will add another great advance by the author of the great work done by the "Murphy button."

Members of the Board of Trustees—Drs. Alonzo Garcelon, of Maine; I. N. Love, of St. Louis, Mo.; H. L. E. Johnson, of Washington, D. C.

Next place of Meeting—Columbus, Ohio.

Time of Meeting, 1899—First Tuesday in May.

Chairman of Committee of Arrangements—Dr. Starling Loving, Columbus, Ohio.

Assistant Secretary—Dr. E. W. Woodruff, Columbus, Ohio.

PERMANENT BADGE OF THE ASSOCIATION.

The Committee on Resolutions did not think favorably of Dr. Stone's badge gift.

Dr. Dudley Reynolds, of Louisville, dissented, and moved that the Association adopt the design as submitted by Dr. Stone for a permanent badge, who also donates to the Association the apparatus for making the button. *Carried*.

The badge is an ancient shield, with a spear-pointed cross in the center, which was a defense armor when medicine had its origin. Opposite each arm of the cross are initial letters, "Members American Medical Association." The enamel colors are red, white and blue, typifying the nationality of the organization.

MEDICAL COLLEGE REQUIREMENTS.

Regarding the resolution to demand of all medical colleges in the United States a standard which should not fall below the minimum of the American Medical Association, and that no college in the United States after January 1, 1899, be allowed to register as delegate of the Association, etc., it was stated that a representative of the Southern Association of Medical Colleges, representing fifteen of the colleges, assented to its passage. Whereupon the following resolution was presented by the committee and adopted by the Association:

"Whereas the American Medical Association did at Detroit, 1892, unanimously resolved to demand of all the medical colleges of the United States the adoption and observance of a standard of requirements of all candidates for the degree of doctor of medicine which should in no manner fall below the minimum standards of the Association of American Medical Colleges;

"And whereas this demand was sent officially by the permanent secretary to the deans of every medical college in the United States and to every medical journal in the United States,

"Now, therefore, the American Medical Association gives notice that hereafter no professor or other teacher in, nor graduate of any medical college in the United States, which shall after January 1, 1899, confer the degree of doctor of medicine, or receive such degree on any conditions below the published standard of the Association of American Medical Colleges, be allowed to register as either delegate or permanent member of this Association.

"Resolved, That the permanent secretary shall within 30 days after this meeting send a certified copy of these resolutions to the dean of each medical college in the United States and to each medical journal in the United States."

The Fourth Day's Session was taken up with unimportant matters—to the general reader—the usual annual complaints being made against the records of some of the meetings.

Our reports of the papers and discussions in the sections has of necessity to be condensed from the *Philadelphia Medical Journal*, the *Medical News*, the *Medical Record*, the *New York Medical Journal*, the *Journal of the American Medical Association*, etc.

SECTION ON PRACTICE OF MEDICINE.

Dr. S. A. Fisk, Denver, chairman, in his Address remarked on the unsurpassed climate of Colorado especially for pulmonary disease. Recoveries are to be numbered by the tens of thousands. He advocated the union of all physicians and the cessation of dissension. Careful clinical observation is as valuable as laboratory methods, but both forces should work together.

Perforation-Appendicitis.

Dr. J. C. Wilson, of Philadelphia, noted the remarkable manner in which surgical treatment has come to the front in the treatment of diseases formerly classed exclusively as medical. In the list of visceral diseases not yielding to medical treatment, and sooner or later to be transferred to the surgeon, are: Empyema, pericardial effusions, troublesome cases of cholelithiasis with persistent symptoms and empyema of the gall-bladder, cysts of the pancreas, echinococcus cysts, certain cases of stubborn nephralgia, appendicitis, ulceration of the stomach and intestines, especially peptic ulcer, the perforative ulcer of enteric fever, etc.

Aside from the traumatic and gynecological

cases, the list of diseases in which acute general peritonitis might arise was most extensive:

(1.) *In the alimentary canal:* (a) peptic ulcer, gastric ulcer, and duodenal ulcer; (b) enteric fever; (c) appendicitis.

(2.) *Other hollow viscera*, the contents of which might be infected: (a) the gall-bladder; (b) the contents of the kidney; (c) the urinary bladder.

(3.) *Rupture of abscesses:* (a) purulent pleurisy; (b) subphrenic abscess; (c) hepatic abscess; (d) abscess of the pancreas; (e) appendicular abscess; (f) other pus collections in regions in relation to the peritoneum.

(4.) *Necrotic processes involving abdominal viscera:* (a) internal strangulation; (b) intussusception; (c) volvulus; (d) embolism and thrombosis of the mesenteric vessels; (e) gangrene of the pancreas or the spleen; (f) displaced kidney or spleen with twisted pedicle; (g) acute hemorrhagic pancreatitis; (h) fat necrosis.

In some of these conditions the previous underlying disease could be readily determined if the patient had been under observation prior to the accident which caused the peritonitis; but in other cases the patient, while out of health, was able to be about and attend to his duties up to the time of his accident. In the first cases a clear pathological relationship to processes of the antecedent condition might be arrived at and a reasonably accurate diagnosis of the immediate cause of the inflammation of the peritoneum reached. The distinction between the cases in which an immediate diagnosis could be made and those in which it could not be made was a matter of theory rather than of practice.

Acute fulminant peritonitis requires immediate consideration. In the early stages, when operative interference was advisable and not without hope, the symptomatology might be grouped as follows:

(1.) Pain, general, becoming local; or local, becoming general, according to cause.

(2.) Tenderness, general, becoming local; or local, becoming general.

(3.) Rigidity of the abdominal muscles.

(4.) Vomiting green, and exceptionally absent.

(5.) Rise of pulse and temperature, exceptionally also absent.

(6.) Shock, varying in depth.

(7.) Diminished peristalsis.

In fully developed peritonitis, in which interference was questionable, the symptoms were:

(1.) Pain, lessened or absent.

(2.) Tenderness, general.

(3.) Distention excessive, replacing rigidity.

(4.) Vomiting excessive, dark, and fecal.

- (5.) Obstipation; peristaltic movements not heard.
- (6.) Rapid and feeble pulse.
- (7.) High or low temperature.
- (8.) Lividity of abnormal skin; cold extremities.
- (9.) Peritoneal facies.
- (10.) Mind clear.

In *hopeless cases* these symptoms were increased by collapse; the patient moribund.

The importance of the condition of the abdomen could not be overestimated. The *early rigidity* of the abdomen is of the utmost importance, and its value is not sufficiently recognized by the practitioner. In recent six cases of perforating ulcer of the stomach reported by different observers, in which the operation was performed in a few hours after symptoms indicated perforation, five patients recovered. Keen gives a table of eighty-three cases of operation for intestinal perforation in enteric fever. As a general result, they give 19.36 per cent. of cures and 80.64 per cent. of deaths. Contrasted with Murchison's unchallenged figures of ninety or ninety-five deaths without operation, we take courage for the future.

In cases operated upon within twelve hours the percentage of recoveries was 26.7 per cent.; between twelve and twenty-four hours, 30 per cent.; after twenty-four hours the mortality was total, except in one operation after twenty-six hours, and in two cases in which the patients recovered in between two and three days.

As regards operation in acute general peritonitis due to perforation and analogous conditions: (a) A definite cause or local diagnosis of the lesions can be made in comparatively few instances. (b) The diagnosis of acute general fulminant peritonitis is of itself sufficient to justify interference in proper cases. (c) The earlier the operation the greater the prospect of success. After twenty-four hours, especially if great distension of the abdomen has shown itself, operation is not likely to be followed by recovery. (d) A small proportion of the cases are manifestly hopeless from the onset. (e) When the patient is not obviously past hope the fear of death upon the table should not deter the surgeon from operating.

Dr. W. W. Keen, of Philadelphia, said in regard to the symptoms Dr. Wilson had given he was not entirely in accord, although with the rest he agreed. The pulse and temperature in perforative peritonitis are of unequal value. While, as a general rule, the temperature is the best index of a septic condition, still it is not always to be relied upon. The temperature is

of not much moment. The statistics given by Dr. Wilson are of extreme importance. If the case is seen twenty-four hours after perforation, one could assign the patient to the grave; perforation in typhoid fever means that ninety-five per cent. would die. Drs. Weir and Tinckler reported that cases operated upon within sixteen hours gave a mortality of over thirty per cent. In cases of appendicitis in which perforation had taken place, especially if there were no adhesions or localized abscess, but there was general peritonitis, all would agree that the only practical hope was offered by operation, and the earlier the better. As regarded the incision in these cases, he did not care if it was two or six inches long, so far as it influenced the mortality. In cases of perforation general and complete cleanliness of the abdomen is all-important. It is not wise to clean nine-tenths of the abdominal cavity and leave one-tenth to be a focus of infection. In general agglutinative peritonitis, make incision not only on one side but also on the other, and thoroughly cleanse the abdomen.

Dr. J. H. Musser, Philadelphia, looked upon pain continuing 24 hours as very significant. No other symptom, usually localized in the course of the disease, gave him so much dread. In other diseases than typhoid, analyze carefully the previous history in the hope of eliciting a possible cause for perforation. With this history, even though obscure, and with signs suggestive of perforation, the diagnosis is sufficiently secure. Temperature is very variable. The degree of pain often depends upon the intelligence of the patient. In typhoid fever, ordinarily, patients are not susceptible to pain, or else their state of mind does not admit of their complaining unless their attention is called to the pain. But in this disease, the occurrence of marked abdominal pain is a symptom to be dreaded as indicating local peritonitis and possible oncoming perforation. After perforation has occurred, pain and tenderness may be absent, but a knowledge of their previous occurrence is important. Symptoms of shock in the course of typhoid fever, hæmorrhage being excluded, are to be relied on in making a diagnosis. Pain and localized tenderness, the antecedent history, and slight rigidity followed by symptoms of shock, should call attention to the possibility of an accident. He favored exploratory incisions for diagnosis.

Dr. C. G. Stockton, of Buffalo, said that it is well to classify the cases at least into those of perforation of hollow viscera, such as the bladder or the stomach, in which the course is violent and acute; and those of rupture of

solid organs or slowly forming abscesses, in which the cause is less active and less distinctive. Abruptness is usually distinctive of the former. The localization of the pain is generally important, but not always so, as Dr. Stockton had seen cases in which, with general symptoms pointing to perforation-peritonitis, all of the local symptoms indicated perforation of the bladder while post-mortem examination showed the stomach to be perforated. He has repeatedly observed that when two pathologic conditions co-exist, such as cholelithiasis and pyosalpinx, as in a case of his own, interference with one is prone to light up the other, his own patient dying of perforation-peritonitis from rupture of a pus tube after an operation for biliary calculi had been undertaken.

Dr. L. F. Bishop, of New York, insisted that opium should be avoided in the treatment of perforation-peritonitis. Ice had relieved pain in his experience and does not obscure symptoms.

Dr. H. A. Hare, of Philadelphia, spoke of the two kinds of pain met with, the one sudden and agonizing, in cases that usually run a rapid course; and the other, which is at first slight, but later becoming severe, in cases of slower course.

Dr. Frank Billings, of Chicago, considered the antecedent history as sometimes more important than existing signs, as it must be depended upon in obscure cases to establish the diagnosis. In exceptional cases, the pulse and the temperature became normal when perforation occurs, and he has even known a patient to have a feeling of remarkable well-being at this time. Rigidity may be absent from the abdominal walls and yet be noticeable in the pelvic muscles upon rectal examination, especially in cases of pelvic disease; and this method of investigation should be constantly used.

Dr. W. O. Bridges, of Omaha, spoke of a man in whom fatal general peritonitis ensued upon a kick from a horse, the post-mortem examination disclosing the ileum completely severed from the cæcum. He also mentioned a case of fatal general peritonitis of three weeks' duration, without definite symptoms and with the temperature never above 100°.

Dr. J. J. O'Connell, of Pennsylvania, believed that while the pulse may drop to normal, it will not long remain so.

Dr. H. J. Herrick, of Cleveland, preferred treatment with opium, calomel, and ipecac to the use of ice-bags, as he had found the former to give more relief.

Dr. J. W. Cokenhower, of Iowa, replied that

opium stops peristalsis, obscures the diagnosis, and prevents consent to operative intervention by giving the patient a false sense of security when the pain ceases.

In closing, Dr. J. C. Wilson insisted that when a case of acute fulminant peritonitis occurred in the practice of a physician it should be referred to and treated by the surgeon exactly as if he had had the case from the beginning. In the German Hospital, of Philadelphia, there is received on an average of every ten days a case of general peritonitis that has been drugged with opium for from three to five days; and is then brought to the Hospital to die. Such cases can be saved only by ceasing narcotization with opium and by immediate surgical intervention after preparing to recognize the case and its necessities at once.

Differential Diagnosis Between Dengue and Yellow Fever, with Some Account of the Epidemic of 1897 in Texas.

Dr. H. A. West, of Galveston, Texas, read a paper with this title. He said that the following hypotheses had been assumed in relation to the recent epidemic: (1.) The disease was dengue only. There was no yellow fever in Galveston, Houston, or the State of Texas in 1897. (2.) There were anomalous cases of dengue, presenting all the symptoms of yellow fever, but proven not to be that disease by the indisposition to spread from numerous foci and the low mortality rate. (3.) During the progress of an intense epidemic throughout the State, in Galveston, Houston, and possibly other places, yellow fever made its appearance, and in consequence of its mild form and resemblance to the prevalent disease, was generally unrecognized. (4.) An imputed hypothesis that the epidemic of 1897 in Texas was yellow fever only. (5.) A few cases terminated fatally, and others, attended by marked jaundice and albuminuria, were denounced acute infectious jaundice (Weil's disease). It appeared from the above that the symptoms which had heretofore been relied upon to differentiate between yellow fever and dengue were the occurrence in the former of albuminuria, the characteristic facies (inclusive of jaundice), the divergent pulse and temperature, excessive irritability of the stomach, and increased disposition to hemorrhages. The absence of such symptoms in the main, the presence of an eruption in the large proportion of cases, and the lack of mortality were characteristic of dengue. Admitting that there was a greater similarity in the symptomatology of the two diseases than had been heretofore acknowledged, the question arose, "How could they be differentiated?" In the

speaker's opinion, this was to be done chiefly by the symptom complex of an acute nephritis in yellow fever and its absence in dengue. In the latter, simple parenchymatous changes might occur in the kidneys and be manifested by an evanescent and mild albuminuria, while in the former in a series of cases many would afford incontestable evidence of the occurrence of a severe nephritis—viz., scanty urine of high color and specific gravity, intense and persistent albuminuria, hæmaturia, casts, decided tendency to suppression, and the accompanying uræmia. The differential diagnosis of these two diseases must be re-written. The mortality in the epidemic of 1897 was astonishingly low.

Dr. F. Billings, of Chicago, asked if blood-examinations had been made, and Dr. West replied that in one case diagnosed Weil's disease Sanarelli's bacillus had been found in cultures from the blood. McLaughlin's dengue-bacillus was looked for, with inconclusive results.

Dr. Kinyoun, of the Marine Hospital Service, stated that those who were said to have had dengue in the spring of 1897 did not acquire yellow fever when that disease was undoubtedly prevalent at Ocean Springs in the fall, even though they were exposed to the epidemic and, in some cases, even in the disinfecting corps. He brought out the difficulty of diagnosis between mild yellow fever, catarrhal jaundice, and dengue, and stated that catarrhal jaundice appeared in epidemic form during the epidemic of yellow fever. He believes that many of these cases were mild yellow fever.

Dr. Brewer, of Gallitzin, Texas, said that he had seen 600 cases during the epidemic. There were no deaths, but one case of hæmorrhage, and 75 per cent. showed a rash. Jaundice was present in 10 per cent. and albuminuria in 50 per cent. of 30 cases examined.

In reply to a question, Dr. Kinyoun said that the sanitary conditions had no influence upon the mortality at Ocean Springs.

In closing, Dr. West said that any arguments against the existence of yellow fever in Texas based upon the low mortality are fallacious, as the mortality was low in New Orleans, Ocean Springs, and elsewhere, and the epidemic was very mild everywhere.

Physiological and Clinical Relations of the Papillary Muscles of the Heart.

Dr. Henry Sewall, of Denver, asserted that many characteristic pathological phenomena are but manifestations of normal heart sounds. Reduplication of the second sound is a normal occurrence, owing to a difference of ten-

sion in the aorta and the pulmonary artery and subsequent asynchronous closure of the valves. Reduplication of the first sound is a more intricate phenomenon, explicable by the condition of the papillary muscles, which are easily fatigued and have no functional relation to the heart walls. Their irregular contraction causes vibration of the valve and with it the development of a valvular sound. Their normal stimulus is stretching from the lifting up of the valve, and increased intracardiac pressure gives this stimulus. Gallop-rhythm is due to the same cause, with a variation in accent and interval only. It is possible to distinguish whether reduplication is due to increased pressure on the right or left or both sides, and consequently to tell whether the cause is in the pulmonary or the general circulation. He has found right-sided reduplication of the first sound in many recent arrivals in Colorado, indicating increased intracardiac pressure on the right side owing to the high altitude. The so-called reduplicated second sound of mitral heart disease is due to over-distention of the left auricle, its resiliency driving the blood in the ventricle, lifting the valves and causing papillary contraction and a valvular note just before the real second sound.

Dr. J. M. Anders, of Philadelphia, believes reduplication is more commonly due to splitting of the second sound by asynchronous valve closure. Mitral stenosis may be due to spasm of the papillary muscles without organic change. Such cases have a presystolic thrill and murmur, without other evidence of organic disease, and occur in neurotic subjects. The course of the disorder is irregular, owing to the neurotic etiology, but it is capable of cure.

Dr. N. S. Davis, Jr., of Chicago, said that irregular papillary contractions may be an important factor, but they will not explain all reduplications, especially those due to asynchronous ventricular contractions or to asynchronous closure of the aortic and pulmonary valves.

Dr. Charles S. Bond, of Richmond, Ind., asked for an explanation of the reduplication occurring in cases of meningitis and other organic nervous affections.

Dr. Sewall added that reduplication at the base is a separate and normal phenomenon. He thought that asynchronous closure of the ventricles could not cause reduplication, as experiments on dogs showed that contraction of the right ventricle causes no sound.

Diabetic Gangrene.

Dr. N. S. Davis, Jr., of Chicago, reported

three cases of gangrene in diabetic patients, one of the finger, one with symmetrical involvement of the feet, and one of perforating ulcer of the foot. All occurred in patients of advanced years. They were remarkable in that the sugar disappeared and health improved with the sloughing of the gangrenous part, and *vice versa* when this ceased. One of the cases had marked arterio-sclerosis, and this is believed to have been the cause of the gangrene in all. Dr. Davis believes the condition to be due in all cases to the low vitality of the tissues of the diabetic subject, with resulting inflammation, as of the lungs in cases of tuberculosis, or in consequence of injury; or in some cases spontaneous, as a result of neuritis or arterio-sclerosis, usually the latter, as almost all cases except those of the former class occur late in life. Amputation can be performed with success if careful asepsis be used, and he is willing to advise amputation when gangrene is limited to the toes.

Dr. Walthall, of Kansas, had some doubt as to the advisability of amputation from a recent experience. In a case of diabetes with gangrene he first took off a toe; then, as the disease spread higher, he amputated above the knee. Death occurred soon after the second operation, which, it is thought, at least hastened the fatal issue.

Dr. J. A. Burroughs, of Asheville, N. C., insisted that amputation must be done and done high above the level of the gangrene. In a case of diabetes with tuberculosis in which he amputated above both knees for gangrene of the feet, much improvement followed, and life was prolonged, although tuberculosis later caused death.

Dr. Norman Ridge, of Los Angeles, Cal., thought it still doubtful whether amputation is justified or not. The disappearance of glycosuria after sloughing of the dead part suggests that something may be found in this relation to explain the etiology of diabetes. He believes glycosuria to be more inconsistent in cases of diabetes associated with tuberculosis than under other conditions, disappearing and reappearing.

Dr. Burroughs reiterated his belief that it is criminal negligence not to amputate for diabetic gangrene.

Dr. C. S. Bond, of Richmond, Ind., had had under observation for fourteen years a woman of 65, who in this time had lost all the toes of one foot and two of the other from diabetic gangrene. Always with the sloughing of a dead part the glycosuria became less and health improved, to grow worse again sud-

denly when a new area of gangrene appeared. Some of the intervals of health had been as great as two years.

Dr. C. F. Wahrer, of Fort Madison, Ia., said that, as the etiology of diabetes and the origin of the sugar are not definitely known, it is not wise to say that all cases must be amputated, or all not. The decision should be determined by the conditions in the individual case. Amputation should not be performed if death is imminent. If the prospects are better, the physician may do as seems to him best.

Dr. Davis, in closing, said that a number of cases have been collected, in which a second amputation saved life, but the mortality is, of course, higher in such cases. He had often seen the glycosuria very irregular in cases with tuberculosis, and the contrary is often true of cases with abscesses and carbuncle, but there were exceptions to this, and no definite relation seems to exist between glycosuria and special kinds of diabetes. The presence or absence of arterio-sclerosis cannot be judged of by what can be felt. In most cases, even in young persons, in which examinations were made, and which did not follow injury, arterio-sclerosis has been found.

Course and Management of Chronic Complicating Myocarditis.

Dr. L. F. Bishop, of New York, expressed the belief that myocardial weakness or disease is a frequent cause of prolonged convalescence, and he advised careful watching for signs of myocardial trouble, such as undue rapidity of pulse, feeble impulse, and especially disturbance of rhythm. Under such circumstances, muscle stimulants should be avoided and prolonged rest observed, with concentrated food, followed by slowly increased exercise.

Differentiation of Cardiac Incompetency of Intrinsic Heart Disease and Chronic Nephritis.

Dr. Frank Billings, of Chicago, reported the case of a man aged 50, with a negative history, except for worry and dietetic errors, who developed dyspnoea, weakness, oedema of the feet. No abnormality of the heart could be detected except weakness; the pulse was soft; the urine contained a little albumen and a few hyaline casts, and a lessened amount of urea. The man grew better, but he overworked himself and again grew worse. He now became waterlogged and the urine contained much albumin and many casts. The fundus oculi remained normal. The appearance was that of nephritis. Thrombosis of the external jugular, axillary, and brachial veins developed. Under treatment for nephritis, the man be-

came entirely well and the urine remained absolutely normal for a year and a half. Then, the former symptoms returned, a heart murmur developed, and the heart became enlarged. The second sound was accentuated and the urine contained a few casts. Death resulted amid symptoms of dilatation of the heart. Post-mortem examination disclosed atheroma and narrowing of the coronary arteries, and fibrosis of the myocardium with segmentation of its fibres. The kidneys showed a diffuse slight inflammation, but there was no valvular heart lesion, although the heart was the cause of the symptoms and the fatal result. Difficulty of diagnosis arises especially in the presence of parenchymatous nephritis, as this may be attended with urinary, cardiac, gastrointestinal, and nervous symptoms, in the same way as intrinsic heart disease. When the urine is of low specific gravity, containing much albumin; the pulse of high tension, with or without arteriosclerosis; if effusions contain urea and little albumin; if there is a tendency to serious inflammation, morning nausea, headache, cerebral hemorrhage, nervous instability, sudden epigastric pain, with a puffy look, anemia, changes in the eye-grounds or Cheyne-Stokes breathing, the case is one of kidney disease. If there is an antecedent history pointing to heart disease, irregular heart, heart murmurs, a soft pulse, little or no anemia, a large liver, cyanosis on exertion, scanty urine with a high specific gravity, much lateritious deposit and few casts, chiefly hyaline, a tendency to thrombosis, and no eye changes and no other changes mentioned under nephritis, the case is cardiac.

Dr. H. A. West, of Galveston, suggested that the therapeutic test would aid in the diagnosis.

Dr. C. S. Bond, of Richmond, Ind., thought that arteriosclerosis is often the important matter, and that diminution of urea is often the only sign of this arterial change for a long time, to be followed by the appearance of albumin and casts and heart changes.

Dr. Norman Bridge, of Los Angeles, Cal., thought it not of much moment to decide in cases, like that reported, which organ was primarily affected. The disease of both is due to the same cause, and this is the important point. He believed that casts could be found in any urine if a centrifuge be used.

Dr. N. S. Davis, Jr., of Chicago, said that the differentiation of Dr. Billings helps the clinician to recognize which is the predominating affection, even though the cause be the same.

Dr. W. O. Bridges, of Omaha, laid stress upon hereditary and family tendencies in the

diagnosis of kidney affections. A history of any disease often causes heart affections, and thrombosis is important in the diagnosis of the heart affection. In the presence of cardiac and renal symptoms, the absence of hypertrophy of the heart points to disease of the kidneys.

Dr. R. H. Babcock, of Chicago, said that increase in blood pressure is always present in the renal cases. The primary absence of an accentuated second sound with subsequent accentuation in Dr. Billings' case, indicates that the heart was primarily at fault. The fact, also, that the heart stands exercise, well points to disease of the kidneys.

Dr. J. M. Anders, of Philadelphia, said that the one primary fundamental cause of interstitial nephritis and heart disease is arteriosclerosis. The left ventricle first undergoes compensatory hypertrophy, then fails and then the urinary phenomena appear.

Dr. Billings, in closing, emphasized the importance of differentiating the two diseases, as the cardiac cases offer a hope of cure, while, when the nephritic cases have reached that stage at which cardiac symptoms appear, there is no hope. The therapeutic test may help, but, like the post-mortem, it makes a diagnosis when no practical good can result. Heart disease and kidney disease may, however, be inseparable, as in some cases of chronic interstitial nephritis and heart disease.

Diabetes Mellitus at Massachusetts General Hospital, from 1821-1897; a Study of the Records.

Drs. R. H. Fitz and E. P. Joslyn, of Boston, read a paper, largely historical, dealing with the changes in methods of diagnosis and treatment that had taken place in seventy six years. During this time there had been treated 172 cases of diabetes, of which 74 per cent. were in males, 26 per cent. in females. The patients varied from 5 to 75 years of age, the average being 33 years. Only one was a negro. Of 42 cases, 10 showed an hereditary tendency. Forty-seven cases (27 per cent.) were fatal. Post-mortem examination in 15 cases showed but slight changes in any organs. Only 6 cases passed more than 300 ounces of urine daily. The largest amount passed was 576 ounces. The highest percentage of sugar was 12. Albumin was found in about 60 per cent. of the cases examined. Jaundice was noted in 5 cases. Five cases were complicated by gangrene. The average duration of the disease was 1½ years. Of the fatal cases, nearly three-fourths died within one year, and nearly seven-eighths within two years. Of the cases

in males, 30 per cent. died; of those in females, 17 per cent. Of cases below 40 years old, 25 per cent. died; of those above 60, 50 per cent. Thirty-eight per cent. of the fatal cases died in diabetic coma. Saline injections were used in 8 cases, all of which died, though life was sometimes prolonged.

Dr. H. A. West, of Galveston, thought that the small proportion of negroes might be due to their smaller number in Boston, although he had never seen a case in a negro in practice in Texas. He asked whether many cases occurred in Hebrews, in obese persons or in gouty persons. The last association he has found frequent. He also asked whether the course of the disease was rapid in youthful persons, and whether cerebral lesions were frequently found. He thought that the occurrence of albuminuria without kidney lesions in 60 per cent. of cases needed explanation.

Dr. Jas. Tyson, of Philadelphia, said that he had never seen a case of diabetes in a negro until three years ago, when, on hearing him make the statement, a negro physician sent him three cases within ten days. He had frequently seen the disease in Hebrews, but he could not explain the incidence.

Dr. C. S. Bond, of Richmond, Ind., thought the frequency in Hebrews might be due to their eating more indigestible foods.

Dr. Joslyn, in closing, said that the weight records had been kept imperfectly, so that no information could be given on that point. Hebrews have come to Boston comparatively recently, so that the records on that point would be misleading. The kidneys were not entirely normal, but had shown no extensive lesions. Cerebral lesions were not mentioned at any autopsy.

Influence of Sunlight on Tuberculous Sputum in Denver; a Study as to the Cause of the Great Degree of Immunity Against Tuberculosis Enjoyed by Those Living at High Altitudes.

Drs. W. C. Mitchell and H. C. Crouch, of Denver, reported studies in which they deposited sputum from tuberculous patients as free as possible from mixed infection on sterilized sandy soil, exposed it to sunlight for from 1 to 55 hours, 6 hours each day, and inoculated guinea pigs at various periods. Control-pigs injected at once died in 20 days. Of animals inoculated with sputum, after exposure for more than 35 hours, none died; pigs inoculated with sputum exposed for only 35 hours died of tuberculosis; but this, from the lesions, was thought to be due to inhalation. After exposure for from 1 to 25 hours, the sputum

killed the pigs by tuberculosis in all but one case, that one alone dying of sepsis. No sign of tuberculosis was found in those injected after the sputum was exposed for 35 hours, so that it had lost its virulence then, but this period gives plenty of time for desiccation of the sputum and the infection of others; so that the climate of Colorado must exercise a good effect in some other way. This must be through the dryness of the atmosphere, preventing the growth of the bacilli; and the high altitude, increasing the blood supply to the lungs and improving the nutrition of the patients; although the bacilli die rapidly in a sunny atmosphere.

Iron and Opium in Bright's Disease.

Dr. James Tyson, of Philadelphia, said that both iron and opium are used too frequently in the treatment of chronic nephritis. Iron is useful only when anemia is marked, and only in cases of chronic parenchymatous nephritis. In acute nephritis other conditions than anemia need treatment more urgently, and chronic interstitial nephritis is the worst form for the use of iron, which checks secretion and causes constipation and headache. Iron is not diuretic except through the water which is used to dilute it. Opium should be used only in the presence of convulsions in cases of acute nephritis or in the presence of puerperal convulsions. It should never be used in other forms, and it is especially dangerous in old people, who often have an unsuspected chronic interstitial nephritis.

Dr. H. A. West, of Galveston, thought anemia very common in cases of acute nephritis, and believed iron was then useful. He had also found morphin to be sometimes the only agent that would control the convulsions of chronic nephritis.

Dr. C. G. Stockton, of Buffalo, agreed with Dr. Tyson as to the use of opium, but he thought anemia common in cases of acute nephritis, and iron to be indicated then. He believed in large doses of iron.

Dr. G. G. W. Vanhorn, of Illinois, thought the lancet more useful than opium for puerperal convulsions, and quite sufficient.

Dr. Tyson, in closing, said that he did not deny the existence of anemia in cases of acute nephritis, but he thought the other indications more important. After the first urgency is past, iron may be used. If all else fails in cases of chronic nephritis, morphin may be tried, but never until then. He also approved of the use of venesection for puerperal convulsions.

Rare Forms of Arrhythmia.

Dr. J. M. Anders, of Philadelphia, reported three cases, two presenting reduplication of both sounds, and giving an impression of four heart-sounds. The first occurred in a heavy smoker, with no organic disease. Pulsus bifrenus was present. The reduplication disappeared under treatment. The second occurred in a case of exophthalmic goitre, in which twenty-four hours before death there was gallop-rhythm, and twelve hours before death double reduplication. Dr. Anders attributed these phenomena to asynchronous ventricular contraction. In the third case, the rhythm of heart corresponded to Cheyne-Stokes respiration, the pause occurring with respiration. The peculiarity was attributed to mechanical interference with the action of the heart.

A Consideration of Four Cases of Epilepsy, with Reference to the Cause.

Dr. Charles S. Bond, of Richmond, Ind., reported four cases of epilepsy in which no history of anything of etiologic importance could be elicited excepting gastric disturbances, in all of which great improvement followed treatment directed to the digestive tract. They did badly with bromids, and were sometimes made worse by them, owing to increased disturbance of digestion. It is believed that they were due to intoxication from the digestive tract, and that the bromids simply prevented excretion.

Dr. C. G. Stockton, of Buffalo, said that he had had a like experience, but he insisted that while some cases of epilepsy could be relieved or entirely cured by treatment of the digestive organs, others would not be benefitted in that way.

Dr. Jas. Tyson, of Philadelphia, mentioned a case in which cure was effected by expulsion of a tapeworm, and another in which cure followed the relief of constipation. He thought epilepsy more likely to be mistaken for chronic nephritis than the reverse.

Dr. Allen A. Jones, of Buffalo, had had cases in which both auto-intoxication from the gastro-intestinal tract, and irritation from same source, seemed implicated in the causation of epilepsy.

Dr. Simmonds, of Kentucky, thought that 95 per cent. of his cases of epilepsy had shown reflex irritation from the gastro-intestinal tract.

Dr. J. M. Anders, of Philadelphia, thought the bromids certainly bad when elimination is desired, but he had never seen a case of epilepsy cured by gastro-intestinal treatment, and he believed that when the bromids are well borne they should be continued.

Dr. H. A. West, of Galveston, believed that comparatively few cases of epilepsy are due to gastro-intestinal irritation.

Dr. Robinson, of Illinois, had seen a case in a child due to furunculosis, the treatment of which was followed by cure of the epilepsy.

Dr. Bond, in closing, said that he had presented the cases to show that they did as well under treatment directed to the stomach as most cases do under bromids, and that some cases are injured by using bromids.

Rheumatoid Arthritis in a Child—Illustrated with Skiagraphs.

Dr. J. B. Marvin, of Louisville, showed skiagraphs from a case of rheumatoid arthritis in a boy now 18 years old. The case had run a slow course, had affected all the joints, and was typical. Dr. Marvin showed also photographs of a negro woman with elephantiasis, whose thighs measured 40 inches, and the calves 26 inches.

Dr. J. M. Anders, of Philadelphia, remarked that rheumatoid arthritis is rare in children, but when it does occur it usually runs a rapid course. Hence the case reported, running a slow course, is especially noteworthy.

Some Neglected Signs in Chest-Diseases.

Dr. Norman Bridge, of Los Angeles, Cal., said that in the absence of the more pronounced signs of pulmonary tuberculosis, slight evidences, such as weak inspiration, prolonged or harsh expiration, and a variation in the signs on the two sides must be looked for. He insisted upon making the patient expire profoundly, as râles are often heard then. Deep inspiration and coughing should also be practised. Cracked-pot resonance is a doubtful sign, but when it is on one side only, and accompanied by râles, it means a lesion. Breath-sounds are very likely to be lessened in the early stages of pulmonary tuberculosis, owing to partial closure of the bronchi from deposit about them. Greater cough during recumbency on the affected side is a valuable sign, dependent upon the sinking down into lower bronchi of mucus by the action of simple gravity. The comparison of the two sides posteriorly was advised, as in this way one is better able to discover the signs due to the fibrosis that extends around the tuberculous foci and thus to recognize the disease early. Dr. Bridge also insisted that fluid in the pleural cavities is often overlooked in children, as dullness is often absent low down, especially on the left side, owing to transmitted resonance from the stomach. The intercostal spaces of children do not bulge, though they are firmer and less

compressible than those of adults. Vocal resonance may be distinct, and the only signs that are reliable are the fremitus and the position of the heart.

Dr. E. Fletcher Ingalls, of Chicago, said that any localized change is an important early sign, and deep respiration is highly significant. He thought examination anteriorly yielded better results than that of the back of the chest. Rapidity of pulse is an extremely important early sign. Vocal resonance and sounds resembling bronchial breathing could be heard in nearly all cases in both adults and children, over a pleural effusion. He believed more suspected cases were falsely diagnosticated pulmonary tuberculosis than the reverse, thus giving rise to great unhappiness.

Dr. James Tyson, of Philadelphia, said that the keynote of the diagnosis of pleural effusion is diminished vocal fremitus; combined with the latter sign, bronchial breathing always means pleural effusion. He asked if Dr. Bridge had found that the fremitus may be, as it is said to be, increased in the pleural empyemata of children.

Dr. C. E. Edson, of Denver, said that a rapid pulse that is also "nervous," quick and irritable and of small caliber, should always lead to a suspicion of pulmonary tuberculosis, and if the pulse does not approach normal under treatment, the prognosis is relatively worse.

Dr. W. N. Beggs, of Denver, said that the instant character of the fremitus in individual cases in pulmonary tuberculosis, is an important sign. Vocal resonance may also vary in the same case. The confusion of muscular vibrations with abnormal pulmonary sounds often leads to error. Dr. Beggs also emphasized the fact that in children with pleural effusions the intercostal spaces do not bulge, and stated that in such cases under his observation careful measurements had failed to detect any difference in the expansion of the two sides.

Dr. Bridge, in closing, said that his paper was but fragmentary and not intended to include all signs. He, too, had often noted errors due to muscular vibration. He thought examination of the back gave the best results, as early signs are more readily recognized there, and the heart-sounds and the normal differences between the apices do not lead to confusion. If signs of fibrosis extend below the upper lobe, a serious lesion in the apex may be believed to exist. As to empyema in childhood, he had found the fremitus considerable in cases in which the pleura was much distended but never equal to or greater than normal.

Association of Chronic Diarrhœa with Achylia Gastrica.

Dr. Allan A. Jones, of Buffalo, said that the hurried passage of food through the digestive tract is an insufficient explanation of lenteric diarrhœa. The normal gastric secretion prevents this hurried passage by comminuting the food and thus rendering it less irritating to the bowel, and by giving a stimulus to pyloric contraction and preventing too early escape of the stomach-contents. In achylia gastrica these effects of the secretion are absent. The result is often more severe intestinal than gastric symptoms in consequence of precipitate expulsion of food, with irritation or overwork of the intestine, of the action of toxic substances developed, or of coincident inflammation of the intestine. Constipation and diarrhœa may alternate, or the latter may be inconstant. The treatment consists in the frequent administration of large doses of hydrochloric acid with pepsin; small doses of tincture of iron or of Fowler's solution before meals; intragastric faradization; and control of intestinal putrefaction by calomel in especial.

Dr. J. M. Anders, of Philadelphia, believed that lenteric diarrhœa is less frequently due to nervous achylia gastrica than to intestinal catarrh, as mucus in the stools is frequent. He had seen achylia gastrica with tuberculosis in several instances, and he believes the condition is often dependent upon some general organic disease.

Dr. C. G. Stockton, of Buffalo, said that cases of achylia gastrica accompanied by intestinal disturbance should be separated from those that are not, as the former are much the more serious. He thinks achylia gastrica is frequently an essentially nervous condition, often attended with periodic or irregular attacks of apparently causeless diarrhœa, without signs of organic disease, as in the case of a woman who had lenteric diarrhœa which always ceased during pregnancy. When accompanied by severe organic disease the condition is not true achylia gastrica.

Dr. E. P. Joslin, of Boston, pointed out the importance of noting that constipation may alternate with the diarrhœa, as such changeability of symptoms is characteristic of nervous affections. The connection of these cases is well illustrated by a case in which achylia gastrica, splanchnoptosis and melancholia were combined. He thought the use of hydrochloric acid futile, as it is impossible to give sufficient to combine with all the proteids. Treatment should consist in giving finely prepared foods in sufficient quantity, with ferments,

such as that of pineapple, which act in neutral media.

Dr. W. O. Bridges, of Omaha, thought the diarrhoea most frequently due to catarrh of the intestine. In the treatment he considered galvanization, with hygienic and dietetic care, the most important matters. He asked if all cases are due to atrophy of the mucosa.

Dr. Jones, in closing, thought that the absence of pain, of emaciation, and, often, of mucus militated against the common coexistence of catarrhal enteritis. Tuberculosis he had frequently seen with hypochlorhydria, but not commonly with achylia. The nervous element has been prominent in his cases; but gastropsis and enteroposis have not been frequent. In the latter form of cases hypersecretion is more common. That atrophy of the mucosa is not always present was shown by a case in which only one examination of many in seven years showed any secretion, but upon this occasion the secretion was free.

Spontaneous Cure of Tuberculosis and the Imitation of Its Methods.

Dr. James T. Whittaker, of Cincinnati, stated that two-thirds of humanity at least have tuberculosis, about one-third dying of it, while in the other one-third it becomes latent or cured. The chief factor in the cure of this third is altitude, which acts by sterilizing, immunizing and invigorating the soil by the action of dryness, cold, sunshine, pure air and increased respiration; but also and chiefly by increasing the number of red blood-cells, and, thereby, the oxygenizing power of the blood. Other methods of treatment are only partially successful, and Dr. Whittaker has attempted to imitate the effects of altitude by trying to increase the number of blood-corpuscles by the administration of blood. Coagulation could be prevented by obtaining the blood from leech-bites, but this was too expensive. Sodium oxalate would prevent coagulation, but was not used from fear of poisoning. Therefore, to each quart of blood $\frac{1}{2}$ oz. each of sodium bicarbonate and sugar of milk and one dram of common salt were added; a pint of water containing such a mixture added to a pint of blood being thrown high up into the bowel. Such enemata were retained with ease, and after their repeated use, marked increase in weight and gain in nutrition were noticed, especially in anemic cases.

Rest: A Neglected Factor in Gastro-Enterio Diseases.

Dr. C. D. Spivak, of Denver, stated that but little attention has been paid to rest as a means

of cure, except by surgeons and neurologists. He protested against the too frequent and general use of lavage, galvanization and other local mechanical measures in the treatment of gastro intestinal diseases. His own method is to advise rest in bed in all serious cases, with entire abstinence from food for at least from one to three days, using nutritive enemata if longer abstinence is necessary; and adding to these, poultices over the epigastrium, which give comfort and act as a splint for the stomach. He recited histories of cases with hyperchlorhydria, gastric disturbance with pulmonary tuberculosis, membranous enteritis and other affections in which failure of permanent relief by the usual methods of treatment was followed by entire cure or permanent amelioration of symptoms when the rest cure was employed. He considered this treatment indicated in all neurotic cases, in all cases with pain or diarrhoea, and in almost all tuberculous cases, and he thought it never contraindicated.

Dr. J. J. O'Connell, of Pennsylvania, thought the typical rest-treatment too much of a stuffing process for most gastric cases, and preferred Winternitz's cold pack over the epigastrium to poultices.

Dr. James Tyson, of Philadelphia, said that rest is likely to do more or less good in all gastro intestinal troubles, while the more exact methods of investigation of the digestive functions have given no aid in the treatment of these diseases; but that rest will always do a great deal of good he thought doubtful. He highly approved of lessening the amount of food as much as possible.

Dr. H. A. West, of Galveston, noted that the gastro-intestinal functions are usually seriously impaired in any severe disease, and thought rest should be more extensively used in all diseases, but he considered that many cases of pulmonary tuberculosis need exercise more than rest.

Dr. Spivak, in closing, stated that he wished only to arouse interest in nature's method of cure. He had found but little literature upon such treatment and none on its use with gastro intestinal affections in general, but only in ulcer. He did not mean that all tuberculous patients should be put to bed, but all those with fever, vomiting or diarrhoea should be at rest.

Case of Aneurysm of Concavity of Transverse Arch, Appearing Externally as a Large Tumor in the Region of the Heart.

Drs. H. W. McLauthlin and Wm. N. Beggs, of Denver, reported the case of a man, 52 years

old, with a syphilitic and an alcoholic history, who had cough, hoarseness, dyspnoea, mental stupor and a projecting tumor extending from the second to the seventh rib on the left and from the sternum to the mid-axillary line. Bruit was absent, but thrill, pulsation, and dullness were present over the tumor. The whole left chest yielded a flat note on percussion, and there was an absence of fremitus on that side. The right radial pulse was almost imperceptible, the left weak; the right pupil was large; the temperature was usually subnormal. The tumor increased in size until its width was 14 inches, and its vertical diameter 14 inches. Clear serum was removed from the left chest with a hypodermic needle, but aspiration was not undertaken from fear that relief of pressure would cause rupture of the aneurysm. Slight bleeding from the apex of the tumor occurred for a few days before death, but the man died with a severe access of dyspnoea. On post-mortem examination the skin was found very thin at the apex of the tumor and adherent to the tissues beneath, part of the aneurysmal sac coming away with the skin when this was lifted. Part of the sternum and of the second, third, fourth and fifth ribs was eroded. The sac, external to the chest wall, was formed by the surrounding tissues, while the true sac was about eight inches in circumference and arose from the transverse arch of the aorta. The left lung was largely consolidated and contained small pockets of pus. The situation of so large an aneurysmal tumor and the absence of pain were notable points.

Value of Saliva from Infancy to Manhood as a Factor in Health and a Diagnostic Evidence in Health and Aberrations in Disease.

Dr. W. G. A. Bonwill, of Philadelphia, said that he had noticed that nipples for infants' bottles are so long that they get under the infant's tongue, that they collapse readily and then no milk is delivered, and that the perforation is of such irregular size that the milk flows irregularly and usually too freely, so that no sucking is necessary and no saliva is secreted. To regulate the flow he has had a secondary nipple with a perforation of regular size introduced within the outer nipple, and the latter is made short and of a form much like a woman's, so that the infant must use its buccinator muscles in suckling, to obtain the milk, thus causing a flow of saliva and aiding digestion.

Medical Treatment of Appendicitis.

Dr. Elmer Lee, of New York, opposed bac-

teria as of serious etiologic importance in appendicitis, and thought that surgery now played too large a role in the treatment, that medicinal treatment should be used in the early stage, and that operation should not be undertaken unless abscess, rupture or necrosis was diagnosed. In treatment he used solely free irrigations of the colon with two or three quarts of water, giving large quantities of water internally, using hydrotherapy for fever, and for pain napkins wet with ice-water applied over the appendix. Food is to be limited, and to prevent recurrence the colon should be kept well flushed.

Dr. E. J. A. Rogers, of Denver, doubted whether medicinal treatment of appendicitis can be relied upon, but if any such is to be used, that proposed is much better than too much interference. The primary cause of the disease is lack of the natural cleansing lavage of peristalsis and the invasion of stagnating contents by bacteria. The various forms of bacterial invasion can never be separated clinically, and, if it be a severe form or if the vitality is low, death will result. One can never tell when a fatality may occur; hence it is wiser to operate in the early stages, and a surgeon of competence and experience should always be called in consultation, in the beginning at any rate, in order that he might have all possible aid in operating when it came to operation.

Dr. Henry Sewall, of Denver, said that one must always eliminate functional cases due to an overloaded colon, and relieve that organ in such instances; but if it is suspected that pus is forming or about to form, operation must be undertaken. He thought a middle position the proper one, using one's judgment about the cases to be operated on, but the fear of possible distant sequelæ in cases that would recover leads him to operation in many such cases. Such a case, in which the patient died of hepatic abscess secondary to old subcecal abscess that had never been suspected, he had reported and he had seen several similar instances.

Dr. H. J. Herrick, of Cleveland, thought appendicitis a medical disease, to be treated with opium and other measures, and he was opposed to surgery in the early stages.

Dr. Wm. Bailey, of Louisville, doubted the success of treatment by the method of Dr. Lee, and, although many will get well without treatment, he always preferred to have the counsel of an experienced and capable surgeon from the beginning.

Dr. James Tyson, of Philadelphia, believed the diagnosis often difficult, and that many

cases that get well under medicinal treatment alone are not appendicitis at all, and he preferred to refer cases at once to a surgeon and sanction operation if he diagnosticated appendicitis.

Dr. J. B. Walker, of Philadelphia, mentioned a case in which apparent recovery ensued, but, owing to occupation and distance from a surgeon, operation was undertaken in the interval and an entirely unsuspected large pus-cavity was evacuated. In another case there was a prolonged illness, during a portion of the time resembling typhoid fever. Upon operation a pus-sac was found, which had probably been present for eleven months. Such cases were leading him to more frequent operation, even when apparently favorable or in process of recovery.

Dr. H. A. West, of Galveston, believed that the physician had the greater responsibility, as he usually saw the cases first, and if he accepted this responsibility without calling in a surgeon, he made himself liable to a charge of responsibility for fatalities.

Dr. C. F. Wahrer, of Fort Madison, Ia., preferred a good physician to a bungling surgeon, but a good surgeon to all others. When good surgical attendance is to be had, operation should be undertaken, but when such aid is not in reach, it is safest to first try medicinal measures.

Dr. Lee, in closing, said he believed that many cases are caused by dietetic and hygienic errors, and that the correction of these will lead to cure. Such cases should be treated by the physician.

Some Considerations Upon Uremia and its Treatment.

Dr. E. W. Mitchell, of Cincinnati, O., agreed with Bouchard that the symptoms of uremia are much like those produced by the poisons that have been extracted from urine, and he thought uremia, often at least, due to auto-intoxication from a destruction of tissue, decomposition of foods in the digestive tract, or resorption of secretions. The quantity of albumin in the urine is no measure of the danger of the appearance of uremia. In treatment, veratrum viride was eulogized. Rest is a most important factor. Drastic diuretics should not be used. Chloroform destroys the blood-corpuscles if too long used, hence its administration in convulsions should not be prolonged. Morphin may be used once in convulsions in acute cases, but its use in chronic cases or its repeated use in acute cases should be interdicted. Pilocarpin was condemned, as

it is likely to drown the patient in his own bronchial secretions. Injections of salt-solution are well used, preceded by venesection if the blood-pressure is high.

Analyses, Selections, etc.

Regeneration of the Stomach After Total Resection.

Dr. Schuchardt read a paper on this subject before the Surgical Congress in session in Berlin last month, a synopsis of which is made in *Medical Press*, June 8th. He said that in some forms of cancer of the stomach one had to operate very early if he wished to avoid removing one-half of two-thirds of the organ. He could with difficulty bring himself to remove more than one-half. A second group of cases showed no tumor formation, but a diffuse disease with nodular thickening of the walls of the stomach and shrinking. Glandular swellings were slight, but on the other hand ascites came on early, with dilatation of the remaining healthy portions of the stomach. The condition was similar in the case of cauliflower excrescence of the stomach. Extirpation of the cancer in the first form was difficult, but easy in the other two. In one case, that of a man, *æt.* 58, with a large tumor, advanced cachexia, and ascites, almost the whole stomach, a portion of the duodenum and omentum had to be removed, and only a small piece of the cardiac end could be left. Recovery took place without interruption. The pain ceased, and he gained in weight up to sixty-one kgm., and for two years he was able to follow his occupation. At first, he could take only a little food at a time, but later on he could eat like an ordinary person. The stomach must therefore have increased in size. Chemical investigation of the gastric juice revealed the presence of a good deal of lactic acid, but no free hydrochloric acid. The man died in the summer of 1897 of lung disease and pleurisy. The autopsy showed no signs of cancer, some was left at the operation, so it must have retrogressed. The newly formed stomach was a blind sac of a capacity of nearly 500 gm. At the under surface a very much thinned omentum had formed, but the duodenal section had no omentum. The thickness of the newly formed stomach was only about one-third that of the normal. No cicatrice was visible about the parts that had been operated on.

Tetany in Infancy with Report of a Case.

This was the title of a paper by John Lovett Morse, A. M., M. D., Boston, Mass., which was presented to Section on Diseases of Children during the session of the American Medical Association at Denver, Colorado, June 8, 1898. He remarked that tetany is probably not a definite disease, but merely a nosological entity. The term "tetany" should be applied only to those cases in which there are spontaneous, intermittent, paroxysmal contractures. Other instances of increased neuro muscular excitability are not pathognomonic. The term "latent tetany" should be dropped.

A consideration of the various theories as to ætiology of tetany was given, but none of them were regarded as satisfactory. Probably there exists no single definite pathological cause, although it is probably due to functional changes in the nervous system as the result of the action of toxic substances of varied origin. The most characteristic lesions are found in the anterior horns of the cervical enlargement. These lesions are not inconsistent with the symptoms.

The frequency of tetany is much less, if the above definition is accepted and "latent tetany" excluded. Dr. Morse then presented a summary of American cases since Griffith's report in 1895. To this was added a report of author's cases.

No specific treatment has been discovered. Preventive and eliminative methods and antispasmodic agents form the basis of rational therapeutic endeavor in the management of this nosological entity.

Do We Drain Too Frequently in Pelvic Surgery?

Dr. W. H. Humiston, of Cleveland, O., President of the Ohio State Medical Society, read a paper with this title in the Section on Obstetrics and Diseases of Women, American Medical Association, at the Denver meeting, June 7, in which he reported that his mortality rate had decreased *pari passu* with the declination of the rate of drained cases as follows:

In 1894, 71 per cent. drained; 14 per cent. mortality.

In 1895, 36 per cent. drained; 7 per cent. mortality.

In 1896, 33 per cent. drained; 6 per cent. mortality.

In 1897, $4\frac{1}{2}$ per cent. drained; $4\frac{3}{8}$ per cent. mortality.

All of the cases in 1897 which were reported as drained, were really those in which gauze was used for the control of oozing, and *not* for drainage.

He also reported in detail a number of cases to show their serious nature, and the happy results obtained when gauze was so used.

He concluded by saying that he is satisfied, after the close study of his latter cases, that the major part of the decline in the mortality rate is due directly to the immediate closure of the abdominal wound, and upon his dependence upon the natural channels of absorption and drainage.

Some Experiments in Uric Acid Excretion Upon a Milk Diet, and the Uric-Acid-Urea Relation to Some Cases of Melancholy.

F. Savary Pearce, M. D., of Philadelphia, Pa., Instructor in Physical Diagnosis, University of Pennsylvania, presented an extended study on the above subjects, in a paper read by title before the Neurological Section of the American Medical Association at Denver, June 8, 1898, in which he followed up the line of chemical work in neurology which he presented before the Section on Medicine at the meeting in Philadelphia in 1897, and published in the *Virginia Medical Semi-Monthly* for June 25, 1897.

The author, after careful tabulation of the results of urinalyses and clinical data of a case of a woman in average physical health, but largely hysteric as the basis of her neural disorder, finds that after being a week upon milk diet exclusively, the uric acid excretion by the kidneys has dropped off to .03 per cent., and urea to 2.04 per cent. By the end of the second week, uric acid had gone down to .02 per cent. (normal, .05 per cent.), and urea to 2 per cent. By the end of the third week, the uric acid had dropped down to $\frac{1}{3}$ or normal excretion, and urea to 1.8 per cent. After this, solid food was given, and gradually increased as to proteids, the uric acid rather slowly coming back to normal, and the urea much more quickly.

In the case of recurrent melancholy, reported fully by S. Weir Mitchell, M. D., in his *Clinical Lessons on Nervous Diseases*, 1897, pages 53 to 57, there was lessening of urea in the attacks, the percentage of uric acid being decidedly increased in the severe attacks, but not in the milder.

Book Notices.

A Manual of Instruction in the Principles of Prompt Aid to the Injured. Including a Chapter on Hygiene and the Drill Regulations for the Hospital Corps, U. S. A. Designed for Military and Civil Use. By ALVAH H. DOTY, M. D., Health Officer of the Port of New York; Late Major and Surgeon Ninth Regiment, N. G. S. N. Y. Late Attending Surgeon to Bellevue Hospital Dispensary, N. Y. *Second Edition, Revised and Enlarged.* D. Appleton & Co., New York and London. 1898. Cloth. 12mo. Pp. 302.

The object of this work, in the words of the author, is to instruct those who are desirous of knowing what course to pursue in emergencies, in order that sick or wounded may be temporarily relieved.

He has succeeded in compressing into a small volume much that will be of great value, especially to nurses and members of ambulance corps, which makes this second edition particularly welcome just at this time. The author uses terms which may be readily understood, and where medical phrases are necessary gives the lay synonyms. Much space is given to the principles of anatomy and physiology, and the illustrations are particularly good. It is certainly a work which should be in the hands of every surgeon, assistant surgeon, and hospital steward, and would be of much value to the general practitioner.

Text-Book of Medical Jurisprudence and Toxicology. By JOHN J. REESE, M. D., Late Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc. *FIFTH EDITION. Revised by HENRY LEFFMANN, A. M., M. D., Ph. D., Professor of Chemistry and Toxicology in the Woman's Medical College of Pennsylvania, etc.* Philadelphia: P. Blakiston, Son & Co. 1898. Small 8vo. Pp. 645. \$3.

The conservatism of this work may be an element of its great popularity and usefulness, for it is very generally adopted by doctors and lawyers. The application of the X-ray is referred to in the preface as the "most notable advance in methods and research," "and it seems that this method will be of great value in medical jurisprudence." And yet we fail to find in text or in index any reference to its employment. It had seemed to us that enough reports had been made of wounds made by the newly-invented forms of small arms to enable the reviser to give a fuller description of their effects. Beside one or two disappointments, such as the above, there is little else, if anything, in the book that deserves criticism. There is, however, a great deal to commend

the utility of the work. A practical definition of wound is given—good for doctors as well as lawyers—which greatly simplifies matters. It is "a solution of continuity, in any tissue, produced by violence." This covers the whole matter, and accords with commonly accepted opinions. Better medico-legal helps could not be obtained with reference to such matters as pregnancy, criminal abortion, feticide, infanticide, rape, etc., than are afforded by this work. The chapter on Toxicology is especially good. We would particularly advise all physicians especially to be fully informed as to lessons of the concluding section of the book on "Alkaloids of Putrefaction—Ptomains" before they too hastily announce that poisoning has been criminally produced, or that it has been done by a definite agent. All in all, Reese's fifth edition of *Medical Jurisprudence and Toxicology* is suited alike to the wants of the lawyer, the doctor, the teacher and the student.

Retinoscopy (or Shadow Test) in the Determination of Refraction of One Meter Distance, with the Plain Mirror. By JAMES THORINGTON, M. D., Adjunct Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. *Second Edition, Revised and Enlarged.* 38 Illustrations, Twelve of which are Colored. Philadelphia: P. Blakiston, Son & Co. 1898. Cloth. 8vo. Pp. 72. Price, \$1.

Dr. Thorington has given us in this little book a most desirable aid to the student in learning retinoscopy. It is concise, clear and practical. There is no attempt to give elaborate theories or explanations. The simplest methods and plainest facts only are presented, and it is easy, therefore, to follow its teachings. We can unhesitatingly recommend it as the best book we have seen for any one who wishes to study the shadow test in refraction, and would prove useful to any ophthalmologist.

W.

Editorial.

Association of Surgeons of the Southern Railway Company.

The Third Annual Convention of this Association is now—June 21st and 22d—in session at the Hygeia Hotel, Old Point Comfort, Va. The following is the programme announced:

Announcement of Committee of Arrangements, by Dr. R. L. Payne, Chairman, Norfolk, Va

Papers: "*Injuries to the Fingers*," by Surgeon

T. H. Hancock, Atlanta, Ga.; "*Should Railway Companies Furnish Their Surgeons with Emergency Cases*," by Surgeon R. B. Fishburne, Leesburg, Va.; Address by Dr. Joseph Price, Philadelphia, Pa., on "*Simplicity and Cleanliness in Surgery*," "*Injuries of the Liver*," by Surgeon S. R. Miller, Knoxville, Tenn.; Address by Dr. Walter Wyman, Surgeon General United States Marine Hospital Service, Washington, D. C., on "*The Recognition and Management of Yellow Fever Outbreaks*," "*Shock*," by Surgeon W. C. Connally, Dallas, Ga.; "*Railway Shock*," by Surgeon DeSausuer Ford, Augusta, Ga.; "*Anæsthesia—General and Local—How Best Attained*," by Surgeon Chas. P. Gordon, Dalton, Ga.; "*Anæsthetics*," by Surgeon George R. Dean, Spartanburg, S. C.; Address by Dr. John A. Wyeth, of New York, on "*The Proper Care of the Gastro-Intestinal Canal in its Relation to Surgical Operations*," "*The Relation of Rheumatic Affections to Railway Surgery*," by Surgeon F. D. Crim, Hot Springs, N. C.; "*Functional Examination of Railway Employees*," by Surgeon-Oculist J. H. Shorter, Macon, Ga.; "*Do Pathological Changes Occur in the Eye After Injury to the Spinal Cord*," by Surgeon-Oculist Dunbar Roy, Atlanta, Ga.; *Report of Two Cases of Railway Surgery*, by Surgeon J. A. Crawford, Rock Hill, S. C.; Address by Dr. Frank H. Caldwell, Superintendent and Chief Surgeon, Plant System, Waycross, Ga., on "*Relief and Hospital Department*," Address by Dr. Willis F. Westmoreland, Atlanta, Ga., on "*Injuries to the Bones of the Upper Extremity*."

Election of Officers.

Selection of Place of Next Meet.

Adjournment.

The following are the officers of the Association:

President—Dr. C. M. Drake, Atlanta, Ga.

Vice-Presidents—Dr. G. W. Long, Graham, N. C.; Dr. Thomas T. Earle, Greenville, S. C.; Dr. John Whitehead, Salisbury, N. C.; Dr. J. M. Black, Knoxville, Tenn.; Dr. Thomas R. Garlington, Rome, Ga.; Dr. T. R. Henderson, Greenwood, Miss.; Dr. F. B. Powers, Lawrenceburg, Ky.; Dr. T. D. Walker, Cochran, Ga.; Dr. O. A. Harrison, Meridian, Miss.; Dr. Wm. K. Gatewood, West Point, Va.; Dr. G. R. Thorn-ton, Memphis, Tenn.

Secretary and Treasurer—Dr. Thos. H. Hancock, Atlanta, Ga.

Committee of Arrangements—Dr. R. L. Payne, Norfolk, Va.; Dr. C. W. P. Brock, Richmond, Va.; Dr. J. A. White, Richmond, Va.; Dr. R. J. Noble, Selma, N. C.; Dr. J. M. Manning, Durham, N. C.

The Medical Society of Virginia

Will convene at Virginia Beach, August 30th. Under the presidency of Dr. Lewis E. Harvie, of Danville, great interest is manifested in this meeting, and applications for membership are coming in from all parts of the State. Under the new regime, greater time will be given to the discussion of papers, which will be numerous, and it is hoped will be short and to the point. The usual preliminary postal-card announcement of the meeting will be issued June 30—two months in advance of the meeting—and replies should be in hand promptly so that the Committee on Program may get out the circular announcement by about July 25th.

The Medical Examining Board of Virginia

Is in session this week in Richmond. Every member of the board is present. There are about 130 applicants for license—some 30 or more of whom are non-graduates. It is to be hoped that Virginia will soon arrive at the position when none but graduates of reputable medical colleges will be allowed to stand examinations. Undergraduates have neither reputation to make nor to lose in coming before the board in evasion of the intent of the law; but they do add sorely to the duties of the over-worked examiners in passing upon papers. As soon as returns are made by the examiners to the secretary, Dr. R. S. Martin, Stuart, Va., the usual report of the present meeting will be published in this journal.

The Virginia State Board of Health

Held its regular quarterly session at Murphy's Hotel, Richmond, Thursday night, June 23d. It was shown that the threatened small-pox epidemic in Virginia was promptly aborted by the efficient and summary action of the Board as soon as the earliest cases were reported to its secretary from different parts of the State. Routine business was transacted. Of the seven members, Drs. Rawley W. Martin, President, of Lynchburg; Paulus A. Irving, Secretary, etc., Richmond; Lewis A. Harvie, Danville; V. G. Culpeper, Portsmouth; Hugh M. Taylor and Landon B. Edwards, Richmond, were present.

Wm. Ernest Walker, D. D. S.,

Of Pass Christian, Miss., has been elected Professor of Operative Dentistry and Orthodontia in the Dental Department of the University College of Medicine, Richmond, Va.

He will enter upon his duties on the opening of the session of 1898-9. Dr. Walker resigned the Professorship of Prosthetic Dentistry in the Dental Department of the Southern Medical College, Atlanta, Ga., to accept the position in the University College of Medicine, Richmond. He is President of the Southern Branch of the National Dental Association, and is an inventor and author in the field of dentistry. This is an addition to the Dental Faculty of the University College—not an election to fill a vacancy.

American Medical Association and American Medical Colleges.

No part of the proceedings of the recent session of the largely attended meeting of the American medical profession in Denver, attracted more attention or was more important to the present and future of medicine than the resolution, which was practically unanimously adopted, requiring all medical colleges of the United States to adopt a compulsory four years' curriculum. The following is the resolution, which met with no opposition; and it was stated that it met the favor of at least fifteen of the colleges of the Association of Southern Medical Colleges:

This journal long ago committed itself in favor of lengthened terms of colleges in keeping with necessities caused by rapid advances made in scientific and medical knowledge. We lend our influence most heartily to the apparent general intent of the resolution, and trust it will not find opposition from any educational center.

The wording of the resolution, however, we regard as too severe to meet the purpose. It takes a large section of the country by surprise, and we see no possibility for carrying it out to the letter within the period indicated in the resolution.

Nearly all the Southern medical colleges are under obligations to matriculates of one and two years ago to graduate them within three years. The third year of such students expires next spring or summer. Standing thus in contract-relation to students, it is impossible to do otherwise than to graduate them according to their proficiency. Such an obligation has the quality of a business contract which was entered into long before the adoption of the resolution of the American Medical Association, and must be regarded as binding until after the period of graduation of such students.

Another impracticable feature of the resolution occurs in the fact that many of the South-

ern medical colleges have sent out advertisements of the session 1898-99, or have issued their usual annual announcements of the same session, in which the usual three years' curriculum is stated. It is impossible at this late day to recall the effect of the publications thus made before the beginning of the fall session. Hence, many of the three year colleges which are truly in sympathy with the four years' course, are placed at a great and detrimental disadvantage by the suddenness of the demand made upon them by the resolution. It may be said, in truth, that none of these colleges anticipated this requirement to fall upon them so unexpectedly, and they are totally unprepared to meet the demands.

We believe we voice the sentiment of the Southern profession in saying what we have, but a little time must be conceded to the Southern colleges to meet the terms of the resolution as presented. This will be but common justice, and what honorable men would expect of an honorable body, when the facts are laid before them. It is evident that the enthusiasm of the wish for the consummation of an end greatly to be desired, led to a hasty and inconsiderate action, which of necessity cuts off the Southern colleges, their professors and graduates from associations which, we believe, were desired to be perpetual and mutual. So that, while this journal commits itself most heartily and thoroughly to the support and accomplishment of the end intended, it must plead for conservatism, and for a reconsideration of ultra views expressed in the resolution so far as they relate to the time of their enforcement.

Columbian University Commencement.

The Commencement exercises of the Medical School of the Columbian University were held in conjunction with the other Schools of the University on Wednesday, June 1st. More than 200 students were graduated from the various Schools. Over 6,000 people were present to witness the ceremonies which were unique and impressive.

Typographical.

In the article on "Cancer and its Treatment, etc.," by Dr. G. Betton Massey, in the last issue, a typographical error occurs which should be corrected. In the heading of the column next to the last of the table, on page 185, the cancer mortality in Philadelphia is stated as computed per 1,000 population. *It should read, per 100,000.* On the same page an *i* should be inserted in Prof. Roucali's name.

The First Nathan Lewis Hatfield Prize for Original Research in Medicine.

The College of Physicians of Philadelphia announces through its committee that the sum of five hundred dollars will be awarded to the author of the best essay in competition for the above prize. Subject: "*A Pathological and Clinical Study of the Thymus Gland and its Relations.*" Essays must be submitted on or before January 1st, 1900.

Each essay must be typewritten, designated by a motto or device, and accompanied by a sealed envelope bearing the same motto or device, and containing the name and address of the author. No envelope will be opened except that which accompanies the successful essay. The committee will return the unsuccessful essays if reclaimed by their respective writers or their agents within one year.

The committee reserve the right not to make an award if no essay submitted is considered worthy of the prize.

The treatment of the subject must, in accordance with the conditions of the trust, embody original observations or researches or original deductions. The competition shall be open to members of the medical profession and men of science in the United States.

The original of the successful essay shall become the property of the College of Physicians. The trustees shall have full control of the publication of the memorial essay. It shall be published in the transactions of the college, and also when expedient as a separate issue. Address J. C. Wilson, M. D., Chairman, College of Physicians, 219 South Thirteenth street, Philadelphia, Pa.

Obituary Record.

Dr. R. C. M. Page, of New York, N. Y.

As we go to press, we learn with keen regret of the death on Sunday morning, June 19th, 1898, of Dr. Richard Channing Moore Page, while visiting in Philadelphia, Pa. He had left his home for a much needed rest, and, although not in specially bad health at the time of his leaving, he was desirous of being free for a while from the duties and cares of his every-day life, as the strain upon him was great. His taking-off was rather sudden, as he had been sick for only one week.

Dr. Page was born in Richmond, Va., fifty-eight years ago. In the spring of 1867, he graduated as Doctor of Medicine from the University of Virginia, and one year later he took the same degree at Bellevue Hospital Medical College. For many years past, the deceased was Professor of General Medicine and Diseases of the Chest in the New York Polyclinic, and it was as a teacher that he excelled. With his students, he seemed able to touch a responsive chord, and by them he was spoken of most highly. As Visiting Physician, he was connected with several hospitals. He was a member of quite a number of medical Associations, and in most of them he took a very active part. In 1891, he was elected Honorary Vice-President of the Congress held in Paris for the study of Tuberculosis.

Dr. Page was an author of no mean ability, and his writings are recognized as standard. Best known—probably—among them are his books on *The Practice of Medicine*; *A Chart of Physical Signs of Diseases of the Chest*; and *A Hand-Book of Physical Diagnosis of Diseases of the Organs of the Respiration and Heart*, etc.

In the death of Dr. Page, the medical profession of the country loses a most distinguished and useful member. A widow survives him.

Dr. John Blair Gibbs

Was killed June 12th, 1898, during a night attack made by the Spaniards on the United States marines at Guantanamo, Cuba. He was born at an army post in the West in 1858. He graduated from Rutgers College in 1878, from the University of Pennsylvania in 1881, and the subsequent year from the College of Physicians and Surgeons. After spending some time at the Bellevue Hospital, he took post-graduate courses in London and Vienna.

At the outbreak of hostilities, he was associated in practice with Dr. Parker Syms, of 60 W. Forty-seventh street, N. Y., but immediately gave up a lucrative practice to offer his services to his country. He applied for a commission in the Navy, and, having passed the examinations with distinguished success, was nominated and assigned to the Panther.

It is notable that the first commissioned officer in the service of the United States to fall on Cuban soil was a surgeon. Dr. Gibbs' surviving relatives are a mother, who resides in Richmond, Va., and a brother in Pennsylvania.

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Original Communications.

ANEURISM OF AORTIC ARCH.

Surgical Treatment by Ligation—Right Subclavian and Common Carotid Arteries, with Report of a Case.*

By B. MERRILL RICKETTS, Ph. B., M. D., Cincinnati, O.

Research shows that nine such cases have been operated upon in the manner described in the title of this paper, two of which have died. The great difficulty is diagnosis.

Christopher Heath, 1865, was the first to operate in this way, supposedly for aneurism of the innominate.

Draste, 1895, injected a solution of gelatine into the veins, experimentally. It has been injected into the first portion of the aortic arch in man, with negative results.

Of four hundred cases of rupture of the heart, but one was of the right auricle.

The following surgical classification of aneurism of the arch of the aorta is made:

1st. Those cases in which the right subclavian and common carotid arteries should be ligated.

2nd. Those in which wire should be introduced.

3rd. Those in which nothing should be done.

The case operated upon by the author of the present paper was a man—white—American—aged 40 years, and of specific history. Operation was done February 15th, 1898; the time consumed in the same being seven minutes for the subclavian and five minutes for the common carotid. The ligation was made with kangaroo tendons. Improvement in the condition of the patient up to the date of this report has been most wonderful.

Berneys suggests a novel idea for reaching

the innominate, carotid, and subclavian arteries, by making an incision in the median line over the sternum, and then dividing the cartilage perpendicularly and laterally, turning the fragment to the right or left as the occasion may require. In this way the arteries may be felt, exposed, and ligated with but little hemorrhage, and in a short time. The fragment is then returned to its normal position, and sutured and dressed in the ordinary way.

I find this method of reaching the arteries by actual demonstration on the dog to be a very plausible procedure, and one that will likely take its place among the various operations in this locality of the body.

CONCLUSIONS.

1st. The remedy lies within the domain of surgery, the specific trouble having been properly treated.

2nd. There are but two methods at the present time:

(a) Obstruction of right subclavian and common carotid arteries.

(b) Introduction of wire into the sac, with or without galvanism.

3rd. Either one or both of the operations should be applied in all cases, after a thorough saturation with the iodides.

4th. Ligation is attended by less danger, less mortality, and more permanent and universal benefit.

5th. Ligation of the subclavian and common carotid arteries is less dangerous than ligation of the innominate; in point of fact, the latter should not be done.

6th. The iodides should always precede and follow any surgical interference on account of aneurismal arteries.

7th. Extreme atheroma might contra-indicate ligation.

8th. Extreme atheroma might possibly indicate the introduction of needles or wire with or without galvanism.

9th. Atheroma, to some degree, is present in the majority of the arch aneurisms.

* Original Abstract of a paper read before the Surgical Section, American Medical Association, Denver, Colorado, June 7-10, 1898.

10th. It is impossible to technically classify arch aneurisms.

11th. The results of the ligation herein contained have been far more beneficial than anticipated.

THE PROPER USE OF VAGINAL PESSARIES.*

By J. WESLEY BOVEE, M. D., Washington, D. C.

Having seen so much of the evil results of using pessaries, for various conditions of the female pelvic organs, it has occurred to the writer that a discussion along the line of the title of this paper would be of considerable interest in a society like ours, which is composed largely of physicians in general practice. Such are the members of the medical profession, to whom women suffering from pelvic trouble most readily turn for relief, and it is also this class that resorts most to the use of the pessary. It may be well at the outset to state that no malice whatever is intended by anything we may say on the subject, though indulgence in unfavorable criticisms may be exercised.

It is purely from the standpoint of the gynecologist that we will treat the subject this evening. Scarcely a day passes that we are not called upon at our office, the hospitals, or in consultation with physicians, to listen to woeful tales of sad experiences with pessaries. Only to-day, we were told by a woman, for whom pus tubes were removed and an adherent retroflexed uterus freed by us not long since, that her trouble was the direct result of the application by her physician of a pessary for retroversion. She said an abscess in the pelvis had followed the insertion of the pessary, and her life was despaired of by her family and physician. It was at this juncture she overheard the soliloquy of the doctor to the effect that he "would give a thousand dollars if he had not inserted the pessary." And so the cases might be related by scores, though not all of them so severe as this one. We confess to having felt in years past that we, too, had caused pelvic exudates by improperly applying pessaries, and we doubt not the physicians who have had the opportunities to do so, and have not had like experience, are extremely few. These instruments are generally applied for relief of various malpositions and diseases of the uterus and vagina.

Probably backward uterine displacements

are the most common conditions for which pessaries are used, and next to these comes uterine prolapse, with or without injury to the pelvic floor. Anterior uterine displacements are often treated in this way. Even procidentia uteri, cystocele and rectocele are often subjected to like method of relief by the ball pessary. Ofttimes, bladder irritation, entirely due to endometritis, has been treated by the insertion of an anteversion pessary, under the fallacious reasoning, that because the uterus lies well forward and closely to the bladder, the treatment consists entirely of lifting this unnatural weight from the organ. It is unnecessary to state that in such cases treatment addressed to the uterine mucosa would have been of far greater service. As already mentioned, it is posterior displacements that create the greatest demand for the services of the pessary maker. I regret to state that few practicing physicians appear to be able to decide from physical examination whether or not in a given case a pessary should be used. They generally determine this by assuming the affirmative and applying the instrument.

In many cases this one proves "not to be the right size," and another and still others are tried. The result is the doctor believes it impossible for her to wear a pessary, and the patient is free and emphatic in her assent. And thus the history continues. The women continue to suffer—perhaps get much worse—and are forced to believe their condition is incurable. In pelvic floor injuries incident to childbirth, uterine descent of various degrees occurs quite frequently. Here pessaries usually fail to do what is expected of them. We are often asked to see such cases by physicians who have been inserting pessaries so large as to markedly distend the vagina laterally, every instrument tried having failed to remain in that canal. Often we have found the outlet of the vagina to be the largest part of it in cases in which pessaries have been vainly applied. In cystocele and rectocele the wide pessaries render the condition worse by increasing the relaxation of the injured structures.

What we have to suggest in the use of pessaries it is hoped will not be received by the society members as in any measure dictatorial, but only what in the present state of our knowledge of the causes and treatment of the diseases of the female generative organs is known to all skilled in this branch of medicine. In the first place the pessary should be of a proper shape, and fitted to each individual case, and not the case to the pessary. It should not be large enough to cause additional tension on the

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, April 4, 1898.

vaginal walls, especially when used as an adjuvant. In retro-displacements the smallest retroversion pessary that will permit the greatest freedom of motion to the uterus and yet retain it in proper position is the one to be used. The danger of using too large pessaries is an important point to be remembered. Pessaries should not be kept in the vagina more than two to three months at a time, at the very longest, but should be removed and cleansed, and, if necessary, changed after each menstrual period, if convenient to do so.

Patients wearing pessaries should be kept under observation as much as though the splints were in other parts of the body, for certainly they must be considered as splints to the pelvic structures.

For the employment of the pessary there are really but two valid reasons; namely, first, in cases of relaxed or injured pelvic structures, as vaginal walls, perineum, the uterine body, mucosa or ligaments, that for practical reasons surgical relief cannot be practiced; and second, as an auxiliary to other forms of treatment, as gymnastics or other form of exercise, tonics, etc., or surgical procedures.

When relaxation of the uterine ligaments exists, whether or not perineal laceration accompanies it, the pessary may be often used to advantage, especially if the uterine descent be marked. When endometritis, metritis or lacerated cervix, or any combination of these conditions be present, the retroversion pessary often assists materially in securing relief. In antelexion or anteversion, though endometritis may also be present, an anteversion pessary may often be worn with comfort. Yet, in the light of our knowledge of the pathology of such conditions, their general application to them is not to be recommended, and we cannot expect entire relief without treatment directed to the actual diseased condition. The retro-displacement may be retroversion or retroflexion, or both. Or yet one of these may be complicated by some form of anterior displacement. When this is due to relaxed utero-sacral ligaments, or of the round ligaments, and especially when the uterus is held extremely backward by the latter; when relaxation of the broad ligaments permit sagging of the uterus; when the pregnant uterus is turned backward; the rectum or an ovary prolapsed; when there is marked straining at stool, and when tumors, either of the uterus or of surrounding structures, are present and plainly pushing or pulling backward or downward the uterus, retroversion pessaries are indicated as an adjuvant to other measures for relief.

If a patient is almost constantly depressing the uterus by the use of tight corsets or heavy skirts, suspended from bands held tightly about the waist, the pessary cannot well do good, as the pelvic organs are, so to speak, placed between the upper and nether millstones, and the evil effects of such pressure cannot always be estimated. The great contraindications to the use of the pessary are inflammation of the Fallopian tube or ovary and results of it. It is not often that even a tyro would make the mistake of introducing a pessary during an acute attack of pelvic peritonitis or of acute inflammation of the appendages. But in cases of pelvic adhesions of the tube or ovary, or even pus tubes or ovarian abscesses, this error is often committed, and the local condition greatly injured in consequence. In such cases particular care as to diagnosis should be instituted. An adherent uterus should never be subjected to pressure from the pessary.

They are often valuable as auxiliaries to Alexander's operation, as well as to that of Kelly, ventro-suspension, and to many other operations for relief of these conditions. Combined with the many non-surgical methods of treatment, their usefulness is widely attested, and here they must be considered as of no great significance, and their presence should never cause pain. If in this short and hastily prepared paper we have given a fairly clear view of when and when not to use pessaries, and if we succeed in enlisting a free discussion of this topic, our desired result will be attained.

1404 H Street, N. W.

DISCUSSION.

Dr. Stone spoke of a case where a pessary had been worn for six months; it had caused great pain; examination showed infantile uterus and small ovaries. His experience was similar to that of *Dr. Bovée*, that pessaries were rarely of service. Women should not be subjected to eternal tinkering every few months to adjust a pessary. According to *Tait*, pus tubes were often due to the influence of pessaries. In some few cases the pessary will be of service. Its proper adjustment requires skill. He had seen four women normally delivered after *Kelly's* operation, and one after *Alexander's* operation.

Dr. Atkinson related the case of a woman, from whom he removed a pessary, which had been in place for five or six years; she had passed through the menopause during this period.

Dr. J. D. Morgan had little experience with

pessaries. It was absurd to hold physicians strictly to account for the presence of a pessary which had been in the vagina, with the knowledge of the woman, for a number of years. Women can very easily remove a pessary by assuming the squatting position and introducing the hooked finger. Pregnancy will cure many cases in which pessaries are applicable.

Dr. Mayfield said he had not introduced a pessary since he left Columbia Hospital. He could not understand how a pessary could be termed a splint. Did not think gynecologists should judge all general practitioners by a few cases, and he defended the general practitioner from such a charge.

Dr. Bouée said it was a mistake to suppose gynecologists based their opinions upon the consideration of a few cases. A pessary acts both as a splint and a crutch; a crutch to the utero-sacral ligament. Tampons do not allow as free movement as pessaries. Every woman wearing a pessary should be examined about every two weeks; we can in this way know whether the adjustment is proper. Where they are used as adjuncts to other treatment most cases are cured, more especially those of unmarried women. They do not benefit cases of relaxation of the retro-uterine ligaments. Pessaries are not in as common use as formerly.

Dr. Stone said Laphorn Smith, years ago, used the interrupted current for procidentia, but he does not use it now.

Dr. Bishop said Dr. Smith was a surgeon, and would not wait for the results to be obtained by electricity, but urged immediate operative measures. A pessary should never be applied as long as there was a tenderness and until the uterus had been placed in its proper position. During the past ten years he had used the galvanic current and tampons of glycerine and borax; under such treatment exudates would yield. After the exudates had yielded, the patient was placed in the Sim's position with a large abdominal electrode and a small uterine electrode; the coarse wire slowly interrupted; faradic current was used with excellent results.

Dr. Bouée would like to ask Dr. Bishop how he limited the current to the adhesions—exudate adhesions cannot be torn without injury to a greater or lesser extent.

Dr. Bishop said he could not give any explanation of this limitation, further than that it was a therapeutic fact.

ADDRESS BEFORE THE GRADUATING CLASS OF THE UNIVERSITY COLLEGE OF MEDICINE, RICHMOND, VA., MAY 26TH, 1898.

By JOHN HERBERT CLAIBORNE, A. M., M. D.,
Petersburg, Va.,

Ex-President and Honorary Fellow of the Medical Society of Virginia, etc.

A traveller, as he views from a distance a mountain range, bisecting his way, sees only a grand rampart rising up from the earth, its sides softened in alternate sheen and shadow, its summit kissing the sky and sharing the deep blue heaven, that marks its wondrous beauty. As he approaches nearer, and stands at its foot, this beauty fades, and in its place there is only before him beetling crag, and roughened boulder, and lightning-riven rock, and he exclaims:

"'Tis distance lends enchantment to the view,
And clothes the mountain in its azure hue."

And so, young gentlemen, you approach to-day, though yet in the distance, the Mountain of Life; its azure summit lit with the light of heaven, but its rugged ascent marked with many a difficulty and fraught with many a danger. Besides, there is many a lion in the way; many a denizen of the dark recesses along your path, to frighten with uncanny cry the timid and wavering; many an idol breaker to point you to the wrecks of the bravest and the strongest climbers; many a shallow-pated simpleton to show you that the guerdon, if gained, is not worth the toil and struggle.

For your encouragement, look to these veterans before you. These wayworn and warworn veterans of the Life Saving Corps. But a short time ago, and these men stood where you stand now. To them, the mountain first showed its azure hue; then its rude struggling pathway of ascent; then its summit in the clouds; even the summit no restful couch of peace, but alternately bathed in sunshine or broken in storm. They were not deterred by the dangers, the difficulties, nor the disasters which beset their way, but with labor, and patience, and pluck, and holding aloft their banner, *sic iter ad astra*, they scaled the rocky heights. Follow them. In their upward course they have faced Death in a thousand forms; and before their enemies, Pestilence, and Infection, and Contagion, have not only stood unmoved; but have gone forward reckless of danger, and counting not their lives dear, have invaded the fomes of diseases' deadliest haunts. They have dis-

pensed to you to-day the tokens of their grace and good will, and have given you the evidences of your fitness to take position in their honorable ranks. "*Hæc Membrana*," which pronounces each one of "*Vir probum, et in arte medendi Doctorem*." Accept these tokens in all of the fullness of their promise, and swear to keep the faith and to follow their noble calling to the end.

To the end? What is the end? I have shown you the way, and I have shown you how the azure would shift into solemn shadow, even as you begun at the base of the mountain of difficulty in your way, and I have encouraged you by the example of these eminent instructors, who have guided your footsteps thus far in your preparation for this ascent; and who, standing themselves upon the summit, give you guarantee that patience, and pluck, and struggle, will place you by their side.

But when you shall have accomplished the weary, and painful, and perilous task, and shall stand with them on what seems to you now a cloud-capped vista, where eternal sunshine plays around the head, permit me to ask you what do you expect, further, as a reward of your labor?

I again refer you to them. Ask of them—Do you expect wealth, and the rest and ease which money brings? It is my duty to tell you that the road to fortune leads not through the doorways of the miserable, the sick, and the dying. The hospital is not lit with the garish light of gold, nor does the flickering taper over the couch of contagion reveal any plethoric purse hidden amongst its noisome folds. There was no altar to Mammon in the Temple of Esculapius. If you are seeking money, you must seek it elsewhere than along the road of physic. The oath of Hippocrates, which you take to-night, forbids that you should know either poverty or riches. The cry of human suffering appealing for human help anywhere, everywhere, amongst rich or poor, virtuous or depraved, high or low, from mansion or hovel, must arrest your ear and command your willing service. It is trite and true, that a man must live by his labor; that the workman is worthy of his hire; that the ox should not be muzzled that treadeth out the corn; and these maxims govern the ordinary business transactions of life. In some crafts, it is even considered justifiable to search a drowning man's pockets before pulling him out of the water. But it must not be so with you. You are entering to-night not upon a business engagement, not upon a profession upon which you are to look as only a road to

honor, to eminence, and to riches; but you are enlisting in a great humanity—a humanity second in its offices to no other upon earth. Not as priest, or Levite, can you follow the path of life, and, seeing the fallen and wounded, pass by on the other side; but, as the good Samaritan, though abused as he was, and as you sometimes will be for your heterodox beliefs, you must stop always, and bind up and heal. You must not only forbear to be moved by the hope of mercenary reward, but without money and without price you must be ready to offer even your life as a sacrifice on the altar of the Moloch of disease. Of you, and of you only of all professions, is human sacrifice required. We speak of the patriot sacrificing himself on the altar of his country, and cry as he stands ready to obey his country's call, "*Dulce et decorum est pro patria mori*." And amidst "the pride, and pomp, and circumstance of glorious war, in the marshalling of cohorts, in the braying of drums, in the screaming of the fife and in the bugle call to charge, with the stars and bars above them, and under the eye of a Lee, a Jackson, or a Stuart, some of your fathers did not count it a cross to die for cause and country.

But, young gentlemen, when the call comes to you, in solemn and whispered words, to go to yonder city beleaguered by death, along whose deserted streets moves only the sombre pall of the hearse, and to enter the silent house, where Pestilence is holding high carnival—to follow the dim light to the shaded chamber, where, by the couch of the dying, only the pallid, weary hospital nurse is watching; with no eye upon her, none upon you but the eye of God, no cheering call of comrade, no ringing shouts of men, no pæans of victory, no applause, no pay awaiting you—then you will need to summon all of your manhood, all of your courage, all of your zeal, all of your love of humanity.

Are you ready for that? If not, turn back to-night. Your fathers, young gentlemen, and our comrades, brethren, fought this fight. We can recall their steady, faithful, unswerving service at Norfolk, at New Orleans, at Memphis, at Mobile, at Savannah, everywhere that the Yellow Death was mowing with remorseless sickle; how, with unblanched cheek and unfaltering step, they followed the ruthless foe, and falling, one would take another's place and close up the sturdy ranks of the martyred heroes.

But you may ask me is there no reward, no recompense for all of this weariness, and waiting, and pain, and peril, and self-sacrifice?

Yes, in a good conscience of duty faithfully done, in a rich heritage of love and blessing from the sick and suffering, in the prayers of the widow and orphan who have watched your earnest efforts to save, and, above all, in the approval, and pity, and grace of Him, who not only died himself for men, but who some day will call to you and say, "Come, my blessed ones," "Inasmuch as you did it unto one of the least of these my brethren you did it unto me." There will be no storied shaft erected to commemorate your courage or your fame. The world does not make heroes of men savers, but of men slayers. Monuments of marble and granite and brass arise to perpetuate the valor of great warriors and soldiers. If you seek reputation, you must seek that at the cannon's mouth.

If to you, as to Achilles, "One glorious hour of crowded life is worth an age without a name," tear up your diplomas to-night. Apply for a colonelcy, if there be any vacancy in that honorable and unsought for position, and enlist for glorious war—war to the knife, and the knife to the hilt. Doff your student's cap and don the plumes of the gay sabreur—array yourself in gorgeous uniform, such as are only seen in piping times of peace, or in the rear, and of whose splendors even Solomon in all his glory never conceived. Lay aside the dull tomes of Physic. Listen to Milton—"To overcome in battle and subdue nations, and bring home spoil, as with infinite manslaughter, shall be held the highest pitch of glory." The world tires of the canker of a long peace. Go to Cuba. The Jingo, and the yellow journalists, and the politicians will herald your chivalry, and will never place themselves personally in the way of your advancement. They will never enter into competition with you for any place "near the flashing of the guns." They will send with you to sustain you and to stand by you as many of their mother-in-law's relations as they can induce to join the army. Or, "if you have no stomach to this fight," go to Congress. There you can safely shout for war and take no risks of its direful woes. Dive into the sacred secrets of diplomacy. Study statescraft. Or don the senatorial robes, and study before your mirror the arts and graces of heaven-born oratory. "Have listening Senators hang upon thy tongue." Pursue the politician's course,

"Who, though born for the universe, narrows his mind,
And surrenders to party what was meant for mankind."

Or if you can find that honest statesman, immortalized by Pope, emulate him,

"Who, friend to truth, of soul sincere,
In action faithful, and in honor clear;
Who broke no promise, served no private end,
Who gained no title, but who lost no friend."

But should you find such a one, I fear you would not find him with "honors blushing thick upon him." Indeed, there is a rumor current in Capitol circles that such statesmen are following the Dodo and the Great Awk to extinction.

Hazlitt says "that the Temple of Fame stands upon the grave, and that the flame upon its altars is fed upon the ashes of dead men." It might have been historic truth in his day, but the flame upon its altars is kindled now by greenbacks and bonds. The money-getter and the money-lender, Dives and Croesus, buy their way to political fame, and loll and rattle as small seed in senatorial chairs once filled by Clay, by Calhoun, by Haynes, by Webster—laugh at the sanctity of the ballot, make, in lieu of laws, Presidents and Governors; and nonchalantly ask the people, "What are you going to do about it?"

Young gentlemen, do not sacrifice your good name and prostitute your noble profession by turning aside from its sacred offices and following politics. Maintain and defend always the high heritage of citizenship. Throw your influence and direct your ballot to the elevation of pure men and true men to places of honor and trust; but don't be immoderately depressed if, in doing so, you find yourself voting in a minority. If, perchance, good fortune should at any time put you in the ranks of the majority, and a general and flattering call should be made upon you to place yourself in the hands of your friends, then you might possibly feel it your duty to make a personal sacrifice to the public good, and suffer yourself to be brought out as a candidate for the Legislature. There you might find abundant opportunity of teaching by precept and enforcing by example some honest and homely truths whilst enjoying the ease of a winter's interregnum from your laborious and exacting practice; but always accept this proud position with the sincere, but rarely expressed comment that the "post of honor is the private station," and assert and reiterate your fixed determination to leave public life after having served one term. You may thus save yourself the possible mortification of a failure to receive a renomination when you most anxiously expected and desired it.

But seriously, young gentlemen, if you would be doctors, be doctors.

"So vast is art, so narrow human wit,
One calling only doth one genius fit."

Remember, that you have entered a profession laden with responsibilities which attach to no other. Human life is placed in your hands, with all of the solemn duties that crowd it; with all of the endearing ties of love which

surround it: Human life—the life of a father, upon whose strong arms hang the hope, the safety, and the support of a family; the life of a mother, upon whose love, and tenderness, and teachings, and watchings, wait the happiness and well-being of a group of helpless little ones. If such a life, through your ignorance, or neglect, or carelessness, or inattention, be sacrificed to death, woe betide the day when you entered that house. You will go out from that stricken home with the mark of Cain on your brow, and no time will efface it. It will be useless to say to others, or to attempt to soothe your conscience with the reflection that you did the best you could. In your solemn work—a work involving the issues of life and death—it is expected and required of you that you should know what is best to be done in any emergency. Then, only when you shall have so applied yourself to your profession, as to have collated all that could be known of the remedies and resources of the art of healing, and applied them with all of the assiduity, and skill, and judgment that you could command, could you lie down with the assurance of no self-condemnation. It is true that human life does not rest in your hands, nor in mortal hands; no care, no attention, no skill, no sagacity will avail when Atropos clips the slender thread from the ever flying spindle; but take care that it is not broken by your heedlessness, your recklessness, or your folly.

Society, with all the fascinations of its gay saloons; beauty, with all of its enticing blandishments; love, with all of its tender sweets, will often tempt you to turn a deaf ear to the call of duty, when, from the midst of pleasure, you are summoned to the side of the sick and dying. Recall then, and again your Hippocratic oath that you will know neither beauty nor deformity, neither age nor youth, neither love nor hatred, that you will suffer nothing to intervene between the keen glance of science and the couch of the stricken and dying. Drink deeply from the pure fountain of benevolence. Fill your hearts with the enthusiasm of humanity; keep in your eye the life and teachings of your Great Exemplar, who thought it not unworthy the work of a God to go about doing good, healing the sick, opening the eyes of the blind, making the deaf to hear and the lame to walk.

Many years ago, in one of the large cities of this country, a small group of young men were gathered in the parlor of a handsome residence, and just entering, as you are to-night, upon professional life, were talking with a very eminent and successful physician—to them a very

great man—and one of them spoke of the solemn earnestness with which his heart was filled, in view of the responsibilities before him, and of his great desire to follow faithfully the noble calling of humanity to which he was just devoting his life. The old doctor looked at him, partly with undisguised amusement and partly with a shadow of contempt, and said, "Oh, you are young now; wait but a few years and the practice of physic will knock all that fire of humanity out of you." He was no longer a great man to one of that little group. The fire had died out of him. Not only so—but as it soon appeared—the love of humanity, and the love of kindred, and the love of home, and the love of his country had all died out of his frozen heart.

Not many years after that night, a wanderer upon earth, estranged from family, from friends, and from all that men hold dear, he died in the city of Rome, and was laid away in a stranger's grave, unmarked, and without one loving hand to close his eyes. Of the little group who stood around him on that eventful night I can only trace the history of one. He is no longer a young man; time has bleached his beard with the snows of many winters, and five decades of practice of physic have seamed his brow with many a furrow, but his ear is yet quick to catch a human cry, and, thank God, the fire has not yet died out of his heart. Ah! young gentlemen, leave out all that is mean, all that is sordid, all that is mercenary in your estimates of the end and promise of that noble calling on which you enter to-night.

But you may ask, is there no pecuniary reward or emolument that attaches to my labors in my profession? How shall I be compensated for the expensive outlay which I have put in it? How shall I maintain myself in that respectful position and association to which my profession entitles me and for which it so eminently fits me? How shall I feed myself, and wherewithal shall I be clothed? These enquiries are very natural and very pertinent. But I think I can promise you that whilst no money or no amount of money can compensate you for the labor, the danger, the self-denial, the harassment, the responsibility which your daily life will devolve upon you, yet some men will recognize the obligation of your service, and you will gather from some source the means of livelihood. If with wise preparation you carry activity, industry, cheerfulness and promptness in your attention to the calls of duty you will receive compensation, sometimes even generous if not proportionate to your service, but be sure that you do your part to de-

serve it. Do not wait to ask, when a summons comes, what shall I get for my pay? Only ask is the case imperative? Am I needed? Is the patient suffering? Is any one's life in danger? Then go—go to prince or peasant, to mansion or hovel, and carry the succor and consolation of your craft. You will thus receive many an unlooked for fee, or you will gain an introduction to many a house or family which, noting your tender and faithful service, will themselves take hold of you and befriend and advance you. Or, if you get nothing for your visit, you will go back light of heart, if light of purse, with the sweet conscience of having allayed some human sorrow or saved some human life. For this service, the saving of a human life, even Pagan civilization crowned a man with a civic wreath and elevated him above his fellows. But Christian civilization promises more than a faded laurel. It guarantees an imperishable crown, and a treasure that "neither moth can corrupt, nor thieves break through nor steal." It was this which filled old Boerhaves' heart when he said, "The poor are my best patients, for God is their paymaster."

In the commencement of your career of practice the poor will constitute the greater number in your clientele. Your treatment of them and your conduct towards them will do much to make or mar your future course. In the language of another, "the true physician will respect their feelings, and will show it both by the tone of his voice and the manner in which he addresses them. He will act as the gentleman to all—to the low and vile as well as to the gentle and rich. His duty is to heal, not to punish. Because he receives no tangible recompense he must not forget his obligation nor his self-respect. Friendship and good-will must be, with all his patients, his Polar Star, and he should ever keep in mind the priceless precept: "There is but one Country—the Earth; and but one Nation—the Human Race."

But there is a class of poor which you will meet with very early in your practice, some of whom are waiting and watching for you now to welcome you as their physician; and who will call on you promptly and frequently as soon as your office is opened, and who will assure you of their patronage and support. Some of them have been cultivating successive crops of young doctors for years. As soon as one crop has grown up under their fostering protection and shown itself sufficiently advanced to be left without further care, they have taken charge of another and another with the same promise and patronage. These patients have

been characterized by certain irreverent young doctors, not as God's poor, but as the progeny of quite another party. They are not too poor to live well and to dress well; indeed, they often are "clothed in purple and fine linen, and fare sumptuously every day"; but they are always too poor to compensate a physician for his services in money. They will patronize you overwhelmingly, and they will try your faith and patience, and your politeness to their fullest extent, and you must be careful lest you lose these cardinal virtues yourself in your frequent contact with such a clientele. Bear your burden until a younger brother of the next class succeeds you and takes it from your shoulders.

But even this is not an unmitigated evil. Besides the opportunity which it will give you of relieving pain and soothing suffering, it will give you practical experience, and it will often open a way of introduction to other people more willing, and sometimes more able to pay you than themselves. Do not neglect these people, though they are not God's poor. They and their wives and their little ones are as susceptible of suffering as any other class, and your mission is to relieve suffering.

But there is another class not poor, who perhaps call on you tardily, it is true, but they are subject to accidents, just like common folks, and occasionally need the services of doctor in an emergency. They will send for you as a make-shift, and they will not be slow to apprise you of that fact, and will dismiss you without grace when the big doctor arrives. Pocket your pride and show a dignified complacency which you will not feel. Under these circumstances you will require both of the bags which the late Dr. Mott, of New York, used to counsel his young graduates to get before opening an office—viz.: a large bag to contain the dirt which they would have to eat, and a small bag for the fees which they might possibly receive. Possess your souls in patience. Said Job: "Should a man receive good at the hands of the Lord and not evil?" Render your best services, though aware that you will be supplanted as soon as possible. This will be right, as well as politic—right, because your high calling requires of you that you dispense its sacred offices without regard to riches, as well as without consideration of poverty. It will be politic because it is always wise to do right in making up the sublime sum of duty.

Do not neglect the rich because he is rich, nor the great because he is great, but pander to neither. Pain and peril bring all men down to the level of common dust. What is gold

and what greatness in the presence of the great conqueror, Death?

And, young gentlemen, arrayed as you are to-day for immortal contest with this remorseless and inexorable foe, you occupy a position which no gold can buy; you stand upon a plane to which no human honor can elevate you. There is no one above you in any place or position in life. Magnify your office, and quit yourselves like men. For this fight you will need a full panoply of preparation. You should have knowledge of the science and art of your profession. You should have zeal, conscience, constancy, courage and strength in the prosecution of it. Trusting to the evidences of the diplomas conferred upon you to-night by the Faculty of the University College of Medicine, I must believe that you have all the preparation for the commencement of this fight which they can give you; and they can give you as much preparation, and as full as you can get anywhere. And you regard yourselves, possibly, as fully equipped, and are ready for the fray. Will you pardon me if I suggest that in your first encounter, you may possibly find some weak point in your equipment that you had not before been aware of; that you may uncover some rift in your armor that you had not before discovered. If you do not, it is just barely possible that the enemy will, and you will be fortunate if you do not have to withdraw for repairs. Do not be discouraged. We must know our weak points before we can strengthen them. You are not young lawyers, and cannot be expected to know it all by instinct, or by research, or through the recitals of a moot court. Your art is not built on precedent, or sustained alone by authority. It was based upon experiment in its inception; it was rationalized by experience, and now facts gathered, and collated, and sifted by earnest, and honest, and ingenious observers have moulded it into a grand scientific structure, around which gather the hopes and aspirations of all men, in all nations, who are laboring to banish suffering and to expel disease from human habitation.

From the extraordinary advantages which you have had, and the facilities which you have of investigating the dark problems of disease, dark and uncertain hitherto, but upon which new lights have fallen from the chemical laboratory, from the lens of the microscope and from the electric rays, you are expected to lead the vanguard of the brave men who are pressing forward to arch this grand structure with the capstone of unquestioned truth. You cannot stand in idleness or with unconcern

and watch this struggle for the advancement of the highest and holiest interests of humanity.

"In the world's field of battle, in the bivouac of life,
Be not like dumb, driven cattle, be heroes in the strife."

Lay not aside to-night your books, your microscope, your retort, your electrical batteries. Pursue your studies as earnestly and assiduously as you have for the three years past. "*Nocturna versate manu, diurna versate.*" Then go into the great fields of preventive medicine, the fields in which it has achieved its greatest triumphs, and contemplate the wondrous achievements of Jenner, of Pasteur, of Lister, of Koch. Estimate, if you can, the results of their labors in establishing the causes of disease, in uncovering the nests of infection, in strangling in their birth the progeny of so many of the ills to which flesh is heir. Small-pox, once the direst scourge that ever cursed humanity, desolating whole communities, and blinding and mutilating those who failed to perish in its ravages. Yellow fever, almost banished from the habitats, when it sprang forth periodically to spread desolation and death, and banishable always. Diphtheria, that dread garroter, whose name is only called with bated breath in households lit and beguiled by prattling childhood. Puerperal fever, that subtle serpent which so often came into the happy home, where maternal love had just given life to a new being, and demanded with ruthless, remorseless cruelty her own in its place. Hydrophobia, fixing its horrible fangs on the writhing victim in hopeless visitation. These mortal maladies all have hidden or are hiding their noisome presence and hastening their escape from the searching light of scientific medicine.

And in this sorrow-stricken earth, filled with pain and charged with human suffering, there is doubtless a remedy for every sickness, an antidote for every disease, if we could only discover and apply it. Nature, ever kind and beneficent in her offices, has reserved in her Arcana many an elixir, not yet known, which would bring back the rose to the cheek of the pallid child of pain; many a cordial which would stir anew the flickering pulse of the fainting. Go into this Arcana, young gentlemen, with lens, and retort and ray, and work with untiring patience and unflagging zeal until you have solved the problem of life and uncovered the mystery of death. Contemplating the results of the labors of the skilled workmen in these fields during the past few years, wonders await us in the near future. We feel as if we could almost see over into that

glorious land of which it is written, "There is no sickness there."

And, young gentlemen, it is the mission of that noble office which you accept to-night to herald the coming of the blessed day when all sickness and pain shall cease. Can there be any earthly mission or evangel greater or more glorious than this? In your daily practice you will sometimes be tired, discouraged, oppressed with labors and harassments, without end and without compensation, as it were; then consider your calling. What is it? What are its offices? What its aims? Who your Great Exemplar? When one asked of old for proof of the presence of the Master, he was sent back to say that "The sick was healed, the blind saw, the deaf heard, and the lame leaped for joy." Can any nobler aspiration fill the heart of a living man than to follow in His footsteps? Can any higher hope enliven the ways of the weary and heavy laden than the awaiting of the promised welcome, "I was sick and ye visited me." These, these are your offices. And if not, then in the language of another, "Who are the blessed that claim them?" And if they be, then the sweet singer of Israel, telling of a time when there "shall be no more thence an infant of days, nor an old man who hath not filled his days"—and even the Roman poet singing,

*Ultima Camaei venit jam carminis aetas
Magnus ab integro saeculorum nascitur ordis.*

And the mighty Apostle to the Gentiles thundering down the ages, "Oh death, where is thy victory?"

"These are your Prophets, proclaiming your mission and assuring you that if your mission be faithful, and their pathetic vision true, then in life or death you shall be as Kings in the house of your Father."

PREVENTION OF TUBERCULOSIS.*

By MATTHEW M. SMITH, B. Sc., M. A., M. D.,
Austin, Texas.

I desire to present a paper, not dealing with some rare and curious case that is seen but once in a lifetime, nor with a new theory concerning the cause of some obscure symptom in a curable disease, or the physiological action of some newly discovered drug that offers no advantages over well known and tried remedies, and the cost of which excludes it from general

use. But I desire to direct your attention to a disease that is universal in its prevalence, and that is constantly seen in the practice of every member of this Association. My subject is: "*The Prevention of Tuberculosis.*"

All the climatic influences of the world, with the latest antiseptic methods of treatment, at best, only cure a fair percentage of the cases of tuberculosis. Koch's tuberculin, with its hundreds of vaunted serums of later discovery, has proven to be of little curative value; and until a specific has been discovered and proven, the profession should act rationally, and endeavor, in every way possible, to prevent the disease. To this end, I submit the following five propositions for your consideration:

1. Tuberculosis is a disease universal in its prevalence.

2. Tuberculosis is a disease in which the cause is well known and established.

3. Tuberculosis is a disease that is, to a great extent, incurable.

4. Tuberculosis is a disease that is infectious and communicable.

5. Tuberculosis is a disease that can be prevented.

These assertions are self-evident to any one who has given the subject much study and thought. I shall refer very briefly to the first three propositions, confining my remarks mainly to the infectious nature of the disease and its prevention.

1. *Tuberculosis is an universal disease.*—It is reported to exist in every country where civilization is known, and in all seasons of the year. It is shown that about 50 per cent. of the human family are infected by it at some time in life. It causes 14 per cent. of all the deaths in the world. In the United States, for instance, more than 450 people die from this disease every twenty-four hours, or over 175,000 annually. It has been demonstrated that we have tuberculosis of the lungs, larynx, intestines, peritoneum, uro-genital organs, brain, spleen, liver, heart, bones, and, in fact, almost every portion of the body is subject to its infection in some of its forms. I appeal to the members of the Association individually to recall their own experiences with the disease as a proof of its prevalence.

2. *As to the cause of the disease.*—There are very few enlightened physicians at the present time that will deny the cause of tuberculosis as established by Robert Koch in 1881, when he discovered and demonstrated the bacillus of tuberculosis as the primal cause. It has been further proven by inoculations of the lower animals and by accidental infections of the

*Read at the Texas State Medical Association in April, 1898.

human subject. This fact has been so well established, and repeatedly proven, that every one accepts it. In passing, however, I might say, the locality of infection is commonly the lungs and the intestinal canal, comprising about three fourths of all cases in the beginning. Children are ordinarily infected through the intestinal canal, and usually from drinking tubercular milk; usually young adults are infected through the lungs from breathing air containing the bacilli in a dried condition.

It is true there are many cases on record, and well known to all, where an individual is exposed to every form of infection, but the three essentials for infection are not all present (namely, debility, abrasions, and bacilli); or else the individual is protected by some mysterious power of resistance that renders immunity where others would succumb.

3. *As to the curability of the disease.*—The death-rate is positive proof of the many cases that are incurable. The thousands of vaunted cures for consumption furnish sufficient evidence that we have no specific cure. That a large number of cases are cured, if given early treatment, I do not deny; but even then the cure is slow, leaving a strong tendency for a recurrence of the attack.

4. *The disease is infectious and communicable.*—The Health Department of New York City, January 19th, 1897, amended the sanitary code by the adoption of the following section:

"Pulmonary tuberculosis is hereby declared to be an infectious and communicable disease, dangerous to the public health. It shall be the duty of every physician in this city to report to the sanitary bureau in writing the name, age, sex, occupation and address of every person having such a disease who has been attended, or has come under the observation of such physician for the first time, within one week of such time. It shall also be the duty of the commissioners or managers or the principal, superintendent or physician, of each and every public or private institution or dispensary in this city, to report to the sanitary bureau in writing, or cause such a report to be made by some proper and competent person, the name, age, sex, and occupation and last address of every person afflicted with this disease, and of every person in attendance upon any person sick with this disease, and of the authorities of public or private institutions or dispensaries, to observe and enforce all the sanitary rules and regulations of the board of health for preventing the spread of tuberculosis."

Dr. Borland says: "All weak persons, especially the young, are liable to contract tuber-

culosis if the three essential factors are present—viz: debility, abrasions, and bacilli." In the convalescence of typhoid fever, measles, whooping-cough, la grippe, and many other diseases, the first two are present, namely, debility and abrasions; and the third can be easily supplied by the millions of tubercle bacilli which are to be found in every public building, railway and street car, hotel, jail, penitentiary, and in many other public places.

Marfan demonstrates the danger from infection by sputum from the following observation: "Twenty-two previously healthy factory employees worked for many years together in one room. In the year 1878, two men suffering with ulcerative pulmonary lesions were added to their number, and these latter two expectorated freely on the floor. Between the years 1884 and 1889, thirteen of the original twenty-two died of tuberculosis. The frequency of infections between man and wife, or from one member of a family to another, is well known to all. Recently, I had occasion to examine an applicant for life insurance who gave a history of three brothers and two sisters having died of tuberculosis, while the father and mother, grandparents, and other members of the family, were all free from consumption or any lung diseases. Inquiry clearly showed the first case to have been acquired from outside infection, and the others were directly contaminated by nursing. Four of the five died within five years' time, and each was healthy until coming in contact with the infected.

The committee appointed by the municipal authorities of Paris to investigate the contagiousness of tuberculosis reported, and recommended the necessity of separate quarters for tuberculous patients, or having separate wards in hospitals; and further recommended the erection of suitable sanatoria for tuberculous patients; also that patients and attendants should be educated to understand the necessity of prophylactic measures, with penalties to insure their enforcement; and, further, that attendants with any throat or lung trouble be prohibited from nursing consumptives. Out of 4,470 attendants in the hospitals, they found 1,296 diseased; 651 with bronchial troubles, and 599 with tuberculosis; and of the 599 deaths within the past ten years, 217 were due to tuberculosis, and 154 from other respiratory diseases.

Anders, in his latest work on *Practice*, in referring to the disease, says: "When the facts that tuberculosis is almost universally prevalent, and that each patient throws off countless millions of bacilli, are remembered, it is clear

that abundant opportunity is everywhere presented for infection, or, in other words, that secondary sources of infection are numerous and varied."

5. *That the disease can be prevented.*—Dr. Borland, of Pittsburg, Pa., in a paper before the Pennsylvania State Medical Association, said: "The knowledge we now possess of the pathology, the three essentials of infection, and the means at our command to prevent infection, ought and can stamp out, if acted upon intelligently and promptly, more than one-half of the cases of tuberculosis within the next twenty-five years, and ninety-six per cent. of all cases in the coming century."

Drs. George B. Fowler, Herman M. Biggs, and T. Mitchell Prudden composed the medical part of the Board of Health of the city of New York, and in pursuance of their duties they have made a careful study of tuberculosis and the best methods for its prevention in large cities. They claim that there are more than 25,000 cases of tuberculosis in New York city, and that its ravages have increased at least thirty per cent. within the last fifteen years. In their official capacity they made four recommendations for its prevention—namely:

1. The establishment of tubercular hospitals for the treatment and control of the indigent.
2. The adoption of suitable laws requiring all cases to be reported and restricted.
3. That all institutions that admit tubercular patients be subject to the inspection of the board.
4. That the people at large be taught about its dangers and sources of infection and methods of prevention.

The Board concluded their report with the following timely remark: "We fully believe that with proper regulations tuberculosis may be restricted within the narrowest bounds, and eventually, perhaps, almost exterminated. This is not the idle dream of sanitary enthusiasts or theorists, but a conviction founded upon the most thorough and conclusive experimental investigations, which have been amply confirmed by practical experience."

Hospitals for the tubercular have been established by many nations, and the death rate has been reduced as a result by the isolation and proper disinfection of all sputum from those under treatment. England has more than 18 such hospitals with 7,000 free beds. Germany likewise has many. France has recognized their value and has established several; and the United States has realized their importance and has constructed three or four.

Massachusetts of all the States has the

largest death rate from tuberculosis. The public had become alarmed about its rapid increase, and active steps were taken for its suppression. The physicians of the State of Massachusetts recommended the establishment of a State hospital for the tuberculous, and the last legislature appropriated, almost unanimously, \$150,000 for such an institution. Furthermore, the Sanitary Board of Massachusetts condemned nearly 5,000 head of cattle within a year, suffering with tuberculosis, and the State paid out for such purposes \$117,000.

Cities where the oldest established sanatoria for tuberculosis are situated, that are conducted strictly upon scientific principles, show a decreased percentage of infections among the native inhabitants, due, first, to the precautions taken by disinfection; and secondly, by the inhabitants receiving practical instruction as to the causes of infection and means of prevention. On the other hand, in those cities with splendid climates, but with open resorts, like Nice and Mentone, the death of the natives from tuberculosis have increased fearfully, due to infection from the tuberculous invalid, who disregards all sanitary rules concerning himself. In fact, before the Mentone climate was considered so beneficial to the consumptive, the native inhabitants seldom if ever died of tuberculosis, while now the death rate among them is frightful.

I only have time to enumerate but a few of the many steps that are being taken, not only in Europe, but this country, towards the prevention of this fearful disease. I desire to impress these facts upon the profession of Texas.

Our death rate from tuberculosis at present is comparatively low, and by the combined efforts of the medical profession it will remain low, *if they will but bear in mind* the prevalence of the disease, its insidious beginning, its slow development, its chronic course and its dangers of infection. It has been demonstrated that in the advanced stages of the disease, where the lungs are affected, a single case may expectorate billions of bacilli daily, and these bacilli, unless destroyed by artificial means or the direct rays of the sun, retain their infective power. This sputum dries and the bacilli are blown about in the atmosphere, breathed into the lungs, and thereby produce the disease.

If a case of small-pox is reported in a city, see the result: The inhabitants flee the neighborhood, the infected are quarantined, and the patient is isolated or sent to a lonely camp, yet these people are exempt, or can become so, by vaccination. On the other hand, the consumptive lives with the family, sleeps with the

healthy, expectorates about the floors, kisses the children, and infects, directly and indirectly, people with a disease, not rendered harmless by vaccination, but almost incurable. We readily understand the cause for this difference: The one attacks quickly and openly, and the result is soon over; while the other steals gently upon you day after day and watches for a time when you are unarmed or weak from disease and the lung is unguarded or inflamed, and this deadly bacillus charges and the individual is taken a life-prisoner by an uncompromising enemy, for when once well fortified in the human organism nothing short of an edict from all the powers will dislodge it.

Gentlemen, in my earnest efforts to impress upon you the duty we owe to the healthy of a community, by adopting such strict rules for the prevention of this disease, I would not have you think, for a moment, that I desired to place any additional hardship upon the unfortunate individual who has fallen a victim to tuberculosis, for there is no diseased person that appeals to me more sympathetically. We should lend a helping hand and alleviate and cure the case whenever possible. The consumptive should not be mistreated, but taken into our charge and given every attention that would in any way benefit him. If one looks into the history of any family, consumption's sad story will be told in some of its forms. Longfellow has appropriately said:

"There is no flock, however watched and tended,
But one dead lamb is there;
There is no fireside, howsoever defended,
But has one vacant chair."

In conclusion, I desire to say that if I have succeeded in impressing the vital importance of this subject upon the members of this Association in a manner calculated to keep it prominently before their minds, I will be satisfied; for let us strive not only to cure, when possible, the afflicted, but also to adopt such measures as will eradicate disease from the face of the earth.

SCIATICA.*

By FRANCIS B. BISHOP, M. D., Washington, D. C.,

Ex-President Medical and Surgical Society of the District of Columbia; Ex-Vice-President American Electro-therapeutic Association; Director Electro-therapeutic Clinic, Eastern Dispensary, etc., etc.

The subject of this paper is old—very old—and many writers have handled it from the standpoint of their varied experiences. That the subject is one of importance, there can be

no question, as the variety of causes which seem to operate to produce this painful disease, and the great number of remedies which have been used in vain to alleviate the suffering incident to it, will testify. I am sorry to say that I cannot offer a panacea, nor can I put the case in a very different or brighter light than those who have preceded me. I can only do as they have done—discuss the subject from the standpoint of my own experience—and hope that, at least, a little may be added that may help these poor sufferers.

The anatomy of the sacral plexus, and the great sciatic nerve, from Gray's Anatomy, is as follows: "The great sciatic nerve supplies nearly the whole of the integument of the leg, the muscles of the back of the thigh and those of the leg and foot. It is the largest nervous cord in the body, measuring three quarters of an inch in breadth, and is the continuation of the lower part of the sacral plexus. It passes out of the pelvis through the great sacro-sciatic foramen below the pyriformis muscle. It descends between the trochanter major and the tuberosity of the ischium, along the back part of the thigh to its lower third, where it divides into the internal and external popliteal." The bifurcation of these become, respectively, the posterior and anterior tibial, the plantar nerves, and the musculo-cutaneous, that supplies the muscles of the fibular side of the leg and the integument of the dorsal side of the foot; therefore, the great distribution of the nerve from the formation of the plexus in the cord to its ultimate termination in the foot, would indicate that sciatica may mean a pain in the great sciatic nerve or any of its branches, or indeed any branch of the sacral plexus; and an irritation or inflammation of any part, supplied by any branch of the sacral plexus, may induce and localize its pain in the sciatic nerve and along its course. I believe that many cases of sciatica, that are supposed to be spinal in origin, are really cases of reflex sciatica, originating perhaps in some part supplied by one or more branches of the sacral plexus, or intimately associated therewith by one or more fibres from the pelvic plexus, as the great sciatic nerve is a continuation of the lower part of the sacral plexus. It is well to keep constantly before us the fact that this plexus is formed by the junction of the lumbo-sacral cord with the anterior divisions of the three upper sacral nerves and part of the fourth, and that the sacral plexus, as well as the great sciatic nerve, gives off other smaller nerves which supply the muscles of the pelvis, internally and externally, also the organs of generation, as

*Read at a meeting of the Medical and Surgical Society of the District of Columbia, April 4, 1898.

well as the lower end of the rectum and sphincter ani, making the great sciatic nerve the dependent part of a funnel-shaped arrangement of plexus and nerves of the pelvis.

"The pelvic plexus is formed by the continuation of the hypogastric plexus, by branches from the second, third and fourth sacral nerves and a few filaments from the two first sacral ganglia. From this plexus, numerous branches are distributed to all the viscera of the pelvis."

The intimate association of this sympathetic pelvic plexus with the motor and sensory sacral plexus should naturally attract our attention in sciatica, especially in considering its etiology and treatment.

A careful examination of the pelvic viscera will, in my opinion, frequently reveal the cause of a sciatica, prolapsus of the uterus with retroversion, prolapsus of the rectum, an inflamed ovary or testicle, varicocele, an inflamed or tender prostate; hemorrhoids I believe to be especially conducive to sciatica, while fissure in ano, stricture of the rectum, stricture of the urethra, impacted feces, tumors in the pelvic cavity—are also causes. One author gives as the cause of sciatica the accumulation of cherry pits in the sigmoid flexure. Anything, in fact, that will disturb, by pressure, or reflexly, the equilibrium of the nervous energy of the pelvis, by contact with the sacral plexus or any of its branches, may cause sciatica. Pressure along the course of the nerve, continued for a long time, may so affect the nerve and its blood supply as to produce an attack of sciatica. Exposure to cold plays an important part in the etiology of sciatica, and by some authors this is looked upon as the most important factor, as the largest number of cases are said to occur in the months of strong winds and low barometric pressure.

Rosenthal says: "Exposure to winds and moisture, contact with damp ground, insufficient clothing, and living in damp places, are the most frequent causes of sciatica. The disease," he says, "is much more infrequent among the better classes." I would say that these may act as exciting causes to persons predisposed hereditarily by a nervous system of poor resisting power; but an experience of many years among fishermen, who are always exposed to cold, dampness, and high winds, and who are poor, with insufficient clothing, poor food and poor dwellings—does not, to my recollection, furnish a single case of sciatica. A practise of several years among pilots, fishermen and sailors, does not furnish my memory with a single case of sciatica, and I am forced to the conclusion that, when sciatica results

from exposure, except under extraordinary conditions, such as a long exposure to a draught, concentrated upon the lumbar or sacral spine, or the course of the sciatic nerve—that the exposure simply acts as an exciting cause to light up a latent and perhaps general condition, predisposed by inheritance, or some long continued abuse of the digestive organs by imtemperate and improper eating or drinking, or both, the cold simply localizing the explosion by temporarily impeding nervous and vascular activity.

Dr. Salisbury, in his "*Alimentation and Disease*," reports the results of an interesting experiment upon three healthy men, whom he fed exclusively on army biscuits for thirty days; among other serious symptoms, one of the men had, on the fourteenth day, well developed sciatic pains; all the disagreeable symptoms, however, disappeared in a few days after this diet was discontinued, showing that fermentation may, undoubtedly, act as a cause of this disease. Hysteria, lead poisoning, tuberculosis, syphilis, diabetes, nephritis, etc., are given as causes of sciatica. Sciatic pains are pronounced in a number of cases of spinal diseases, especially so in posterior spinal sclerosis. Inflammation of the nerve itself is often the result of constitutional causes. Rheumatism may attack the sciatic nerve or muscle supplied by it. Indeed, the causes laid down for sciatica seem to be almost indefinite. Brown-Sequard and Piorry say: "It may occur as reflex phenomenon in dental and facial neuralgia." Personally, I have great regard for the authors of this last statement, but I am rather inclined to the opinion that the same conditions that predisposed to the facial neuralgia caused also the sciatica. The authors whom I have consulted on this subject say that this disease is more frequent in the male than in the female. If this really be the case, my experience is rather strange, as my cases have been in the proportion of three females to one male.

Scoliotic sciatica is said to be due to an inflammation of the sciatic nerve, extending upward to the nerves supplying the pelvic muscles, producing thereby a gradual curvature of the vertebral column. This condition, I think, will be found to be the case, whether the disease extends from the sciatic nerve to the pelvis, or, being primarily in the pelvis, extends to the sciatic nerve. Overstraining, in predisposed subjects, will, no doubt, produce inflammation in the sciatic nerve, or some branches of the nerve, or of the sacral plexus. Heredity plays an important part in all forms of neural-

gia, and sciatica is not exempt from the general rule. It is reasonable that a parent, constitutionally depraved, should transmit to a child a nervous system, lacking in stamina, and during the ordinary cares of life, he may stand the strain, but when subjected to extraordinary duties, either physical or mental, this frail nervous system is apt to collapse. It may be a general neurasthenia, insanity, facial neuralgia, or, under favorable conditions, sciatica, or some serious spinal disease. Gout must not be slighted, as it is a fertile source of this very painful malady.

The *symptoms* of sciatica are generally spoken of as beginning rather suddenly, with pains in the back of the thigh, in the leg or the foot. I have seen several cases where the disease came on very gradually, and at first seemed to be an affection of the posterior sacral nerves, but gradually spread to the buttocks and down the course of the sciatic nerve. During a paroxysm, the pain is sharp and lancinating, and may be confined to the upper part of the nerve, or extend throughout its whole course from hip to foot; between the paroxysms, the patient is conscious of a dull, gnawing pain, and is also conscious of the fact that a sudden movement will precipitate a paroxysm at any time. Hyperesthesia of the limb is common—often accompanied by a tingling sensation. The limb is usually colder and paler than the healthy limb, and a sense of weight is usually a source of complaint. The facial expression is one of pain, anxiety and suffering. In severe cases, the pelvis is tilted away from the tender nerves, while the body is inclined toward the pain in an effort to relax the muscles of the painful area. This produces scoliosis, or curvature of the spinal vertebræ. Tender points are usually found throughout the course of the affected nerves—at the sciatic notch, middle of the thigh, in the popliteal space, near the head of the fibula, behind the external malleolus, and on the back of the foot. The paroxysms are often accompanied by a spasmodic jerking of the limb, producing the most excruciating and agonizing pain. Muscular wasting and altered electrical reactions may follow a severe and prolonged case.

The *diagnosis* is ordinarily very simple, so far as diagnosing sciatica is concerned; but when we try to arrive at a probable cause, the case becomes more complicated. In rheumatism, there is generally swelling of the muscles of the affected part, accompanied by elevation of temperature, and movement is far more painful than pressure. Psoas abscess may be excluded by the absence of flexion and retrac-

tion of the thigh, pain of a very acute character upon extension, suppurative fever, swelling and œdema of the limb, etc. Neuritis is characterized by febrile movement and pain, continuous along the whole course of the nerve; often felt under the finger as a swollen and tender cord, and very sensitive to the touch; and these are the cases which usually terminate in paralysis of motion and sensation.

Frequent examinations of urine should be made as a guide, both to diagnosis and treatment. Gout may be recognized or surmised by the presence of gouty diathesis and gouty symptoms in other regions, by the presence of undissolved urates in the urine, the habits, occupation, and general appearance of the patient. Posterior spinal sclerosis, or locomotor ataxia, as it is generally called, very often gives expression to its early appearance by sciatic pains. When this is the case, the sciatica is usually bilateral, the painful pressure points are lacking, knee-jerk is usually absent, darting pains around the waist or chest, may, even at this early stage, be present; numbness of the bottom of the feet with Romberg's symptoms, may be present; the Argyll-Robertson pupil may possibly be present, with other symptoms of locomotor ataxia. In all cases of bilateral sciatica, our suspicions should be aroused and cause us to watch the case closely and examine carefully for further evidence of locomotor ataxia. Tumors of the pelvic cavity, by making gradual pressure upon the course of the nerve, or some of its branches, may be suspected when the disease comes on gradually, and grows constantly in intensity, with a tingling, numb sensation. Pelvic disorders may be usually excluded or found upon careful examination, diabetes, nephritis, etc., by other symptoms and examination of urine. Hysteria is to be recognized by the presence of other signs of this affection, and by carefully watching the case, the absence of painful points in the proper places. These patients are apt to complain of a hyperesthesia and tender condition along the limb, anteriorly as well as posteriorly. These are the cases that are usually due to an irritable ovary or inflamed uterus. Lead poisoning may be excluded by the absence of pain in abdomen, of blue gums, and, especially, by absence of lead in the urine.

The *prognosis* depends upon the cause and character of the disease, as already outlined. The most favorable cases usually last several weeks, and bad cases may last many months, and may, eventually, be followed by wasting and paralysis.

Treatment.—Is there a remedy that has not,

at some time, been used in the hope of alleviating the pain at least, if not curing sciatica? From Rosenthal's work on nervous diseases, I extract the following: "Kolas and Malgaigne have advocated a measure which is made use of in veterinary medicine, viz: the cauterization of the lobe of the ear upon the anterior surface of the helix on the affected side." What benefit, if any, was the result of this measure, the author does not state. Undoubtedly, each case must be a law unto itself, and each case should be carefully and repeatedly examined, to ascertain the cause of the trouble, and, when found, try to remove the cause. It is well to remember that malaria, in this climate, plays an important part, not only in causing sciatica, but all other neuralgias. When this is found to be the case, the remedies used in malaria are indicated, and ought to be given unsparingly. My experience has been that, when malaria produces a neuralgia of great intensity, it has not done so by an acute attack of malaria, but has gradually poisoned the system, and has become chronic really before it manifested itself, and a severe and obstinate sciatica has been the first real indication of its presence; so the remedies will have to be used for some time before there will be any appreciable benefit. Syphilis must, of course, be treated by specific medication; rheumatism, gout, nephritis, and diabetes—by diet and remedies suitable to these diseases; lead poisoning, by potassium iodide and Epsom salts. Pressure should be kept from the sacral plexus and the sciatic nerve. A retroverted and prolapsed uterus should be kept from the floor and back of the pelvis, if possible, by the position of the patient and by tampons. Tumors should be removed, either by the knife or electricity. The lower bowel should be kept empty. Turpentine has been given to ease the pain, and, occasionally, with good effect. Morphine, acetanilid, etc.—in fact, nearly everything has been used to ease the pain. There is no doubt that in very acute and severe cases perfect rest in bed is the first and most important step, with hot applications to the pelvis and to the whole of the affected limb. There has been a great deal written upon the treatment of sciatica by electricity, and, I am sorry to say, most of it is misleading, from the fact that sciatica is treated of regardless of etiology, and spoken of as though it were simply a pain, with electricity the remedy. Electricity is, beyond doubt, the most reliable agent in the majority of cases of sciatica, but it is useless to treat a sciatica, resulting from a specific poison or from pressure, as long as the poison or pressure is allowed to remain as food for the dis-

ease. Even after the cause has been removed, we find a sub-acute inflammation still remaining that will keep up the pain and lameness, and it is here that the judicious use of electricity will do its best and most effective work. The acute cases should, if possible, be treated at their homes and in bed, and should be encouraged to rest for several hours after treatment. A battery should be kept at the house, and the physician should know how to use it and the best method of applying it for each individual case, and the treatment should consume from twenty minutes to an hour; and in no case should it produce pain, the object being always to tone a weakened, and, perhaps, partially degenerate nerve, and, at the same time, avoid lighting up an acute inflammation.

The acute attack has left the nerve and muscles crippled, and, in many cases, unable to recuperate, and electricity should assist recuperation and dissipate the source of inflammation or irritation. When the patient is able to get around without great pain, he should be encouraged to come to your office for static electricity, for there is no doubt that this current possesses therapeutic properties unknown to galvanism or faradism. Many cases never go to bed, and are cured in the physician's office by static electricity, but these are not the cases spoken of above, or they have passed the acute stage. I will repeat that, in the treatment of sciatica by electricity, each case must be a law unto itself, and be treated with that judgment which can only come from experience.

Before closing, I beg to state that, recently, I have been getting splendid results from a high tension, alternating current, combined with the direct current. This application, to the best of my knowledge, is the result of personal investigation.

The static spark has been lauded as almost a specific for certain forms of sciatica, and, in those cases suitable to this treatment, there is no doubt of its value; but patients, already nervous, are very much frightened at the snap and shock of the spark. In these cases, I have found the high tension, alternating current, of especial value in modifying the pain and in allaying the nervousness. Galvanism and faradism are our old reliable soldiers, and cannot, under any circumstances, be slighted in the treatment of this malady in some part of its course, and many cases may be cured by these currents. They are my constant companions.

1913 *I Street N. W.*

DISCUSSION.

Dr. Stone said he endorsed the paper of *Dr. Bishop*. Sciatica is most difficult to treat suc-

cessfully. Dr. Bishop's course of treatment is a good one. We must remove the cause, as this is the key to successful treatment. Many remedies have been recommended. Where hemorrhoids are present an operation does good. Possibly, through suggestion, the mind cure may be of service in some cases, and many are cured by insignificant remedies. Dr. Bishop refers to the burning of the ear. This is of that kind of influence where the pain is inexplicable; a placebo is the best remedy. Related a case where finally the patient was cured by cold applications. Nerve stretching, when first introduced, seemed to give relief; sometimes, even now, it does good. Deep injection of morphine into the nerve sheath has been employed more or less successfully.

Dr. Hunt said he believed in the rest treatment with extension. The text books refer to electricity as of very little value, except in cases where there is atrophy. We find the cause, and, if possible, remove it. In the rheumatics we must employ the iodides, where there is a malarial taint; quinine, in large doses, will in very many cases be of benefit. Does not employ or approve of the use of morphia, except in selected cases.

Dr. L. Eliot said he did not think hemorrhoids and impacted feces as great causes of sciatica as fissure and irritable ulcer. The pain of the hemorrhoids is due to the strong contraction of the sphincter or the exposure of an abraded surface. Related a case of sciatica which was due to impacted feces and relieved by croton oil and morphia in combination. One case was cured by incising fissure and removing hemorrhoids. The scar tissue of a divided and fistula was the cause in one case which was cured by removal. Hot iron, sulphur bags, nerve stretching, deep injection of morphia had all been employed, but he obtained the best results from the internal administration of the concentrated tincture of green oats. The effect of this remedy would be manifested in a very short time.

Dr. J. D. Morgan endorses the application of cold over the course of the nerve; it gives instant relief, which relief is continuous for several hours. Internal medication must be employed; he uses internal and external medication with the constant current in acute attacks. The interrupted current is not of service here as it often causes an increase of pain.

Dr. Bouée said he considered the paper of great value. He cannot agree with Dr. Morgan in the statement that the interrupted current causes pain.

Dr. Mayfield spoke of auto-infection of intestinal origin as a cause of this affection, and when this is the case we must first correct this condition.

Dr. Bishop, in closing, said nerve stretching has been discarded. Dr. Hunt had spoken of authorities being opposed to the use of electricity, many authorities as so opposed, and they are correct in this, that cases have to be carefully selected for this treatment as experience dictates. Fissure in ano is a cause, but he does not think as much so as hemorrhoids, since the pain is due to pressure upon the hemorrhoidal nerve; impacted feces act in the same way. In the treatment of subacute conditions the galvanic current is best; where the pain is great and there is no decided inflammation, the faradic is the one to be employed. In the ordinary battery, such as one finds in the shops, the coil generally contains only about 100 feet of wire, which gives a current entirely too rough and stimulating. We want, in the treatment of these cases, a current of high voltage and one causing no pain. The battery which he uses has a coil of 8,000 feet. The high tension alternating current is the anæsthetic current of the future. In a recent article in the *Scientific American*, John Trowbridge describes an ingenious method by which he has been able to determine the voltage necessary to produce the X-Rays, which, he says, requires at least 100,000 volts. Dr. Bishop is now utilizing this current, direct, interrupted, and alternating in painful conditions, and especially in subacute neuritis, with gratifying results. The use of this current requires care and a specially constructed apparatus.

Analyses, Selections, etc.

Successful Treatment of Hay Fever.

Dr. W. C. Hollopeter, of Philadelphia, in a recently issued book on this subject (noticed in this issue), published by Messrs. P. Blakiston's Son & Co., speaks so confidently of the results of a plan of treatment, which he has followed for ten years or more, that we make some extracts from it.

So frequently successful has the thorough cleansing of the nares been that in many cases of gross hypertrophy he has neglected removal. But if the sterilizing and cleansing treatment (about to be described) does not bring relief, then he resorts to the galvano-cautery or needle for hypertrophy, or the snare for polypi, after which his usual nasal cleansing process

will be satisfactorily continued. In cases of deviated septum, he rarely feels the necessity for correction, but most carefully follows out the thorough cleansing unless the case presents itself some months before the expected paroxysm. "This is extremely necessary to successfully destroy the nerve habit, and to effect a cure." "In old cases, where the nerve habit has long been formed, treatment should commence at least two, or, better, three weeks before the anticipated recurrence of the paroxysms. All bodily irregularities must be corrected, and tendencies to constipation or dyspepsia removed. Amylaceous indigestion should be corrected by the exclusion from the dietary of too starchy foods. For the elimination of excessive uric acid, or other waste products, and to relieve constipation, the systematic administration, morning and night, of effervescent sodium phosphate is invaluable. If the appetite is not good, the regular use of the tincture of nux vomica—ten to twenty drops three times a day—is strongly indicated. In anæmic cases, pills of carbonate of iron, or, probably, still better, the pills of valerianate of quinin, iron, and zinc, are necessary. In nervous cases, with anæmia, valerianate of zinc, one grain, with two grains of the compound asafœtida pill two or three times a day (after Morrell Mackenzie) will be found valuable. Careful diet, a tranquil mind, and moderate exercise, are essential. Outdoor exercise, with a daily tepid bath, followed by vigorous friction of the whole body, will serve to eliminate waste material. The patient should not unnecessarily expose himself to direct rays of the sun, as they are calculated to excite intense reflex irritation of the sensitive nerve centres. Much trouble may be averted by the use of a sunshade or umbrella, and by the avoidance of exercise in the sun."

With this general hygienic and constitutional treatment, the course of local prophylaxis by daily sterilization of the nasal mucous membrane is most necessary.

"It would be a long story to trace in detail the gradual abandoning of one drug after another, from the mildest alkaline wash up to the strongest caustic application of Williams—the solution of the iodid of mercury of the strength of 1:1000 up to 1:250. The chronic acid application, nitrate of silver, carbolic acid, tincture of iodine, quinin solution, perchlorid of mercury, and many of the more powerful caustics and tissue-destroying applications so frequently resorted to in the early history of the treatment of the disorder, I have long ago discarded. These remedies, while sometimes possess-

ing merit, were not lasting, and were frequently more painful than the paroxysms they were supposed to check; they could only be resorted to in those hopeless cases in which the patient would willingly suffer any pain rather than the distressing hay fever paroxysms."

"All of the severe caustic remedies have, in turn, occasionally proved of value; but my experience of late years has led me to avoid all powerful applications. For the last ten years, I have used the ordinary Dobell's solution:

R.—Sodii bicarb.

Sodii boratesãã ʒiiss.

Acid carbolicʒss.

Glyceriniʒij.

Aquæ rosæ, 25 per ct. q. s. Oj.

M.—S:—Teaspoonful to one ounce of warm water.

This, I thoroughly use in both nostrils, first by means of a hand-ball atomizer, after which, with a curved aluminum applicator or Harrison Allen's nasal cotton-carrier, I very carefully swab the whole naso-pharynx. *I scrub most carefully every portion of the mucous membrane, being sure to reach between the turbinated bones, and all around and over every slight prominence.* I then as carefully dry the membrane with clean cotton, and use freely blandine comp. (a mild solution of menthol in albolene), loosely plugging the nose for a few minutes to retain the oily application. It is important to most thoroughly sterilize the three sensitive areas of the nose, as we are unable to determine whether one or more may be affected, and by this mild, yet thorough, treatment, we cleanse effectually the whole nasal chamber."

"Good results need not be expected by simple irrigation and swabbing—the whole nasal mucous membrane must be thoroughly washed and scrubbed before the oily applications are used."

"The rigid simplicity of this form of treatment has been such that, for a long time, I doubted the real extent of its value; but as so many extreme sufferers have expressed their great relief, and were willing and anxious for me to continue the applications, I have concluded to offer my methods in full confidence of their reliability, with a warning that, for successful treatment, the directions of cleansing and scrubbing must be followed in the strictest detail."

Treatment of Syphilis.

The *Southern Practitioner*, May, 1898, reports Dr. W. F. Glenn, Clinical Professor of Genito-Urinary and Venereal Diseases, Medical De-

partment of the Vanderbilt University, Nashville, Tenn., as saying in his *Lectures on Venereal Diseases*: When a patient presents himself for treatment, he should be placed upon the following recipe (which fully meets all indications) until the symptoms disappear, his appetite is improved, and a general feeling of vigor and activity exists:

R_x.—Hydrarg. bichlor 2 grains.

Iodia 6 ounces.

M. Sig.—One teaspoonful after each meal.

Iodia is prepared by Battle & Co., St Louis, and contains extracts from the green roots of stillingia, helonia, saxifraga and menispermum. Each fluid drachm also contains five grains iodide of potassium and three grains phosphate of iron. The tendency of the profession is too much towards discarding everything but mercury. I have often seen mercury alone, or combined with iodide of potassium, fail to heal secondary ulcerations, which speedily disappear when combined with vegetable alteratives. It is, therefore, best to have the good effects of the only three reliable remedies at once, viz: mercury, iodides and vegetable alteratives (which is obtained in the above prescription.)

Pyoktanin in the Treatment of Cystitis.

Dr. R. E. Graham, Director of the Columbia Antitoxine Laboratory, brings forward this agent (*N. Y. Med. Jour.*, June 25, 1898,) as a valuable one in the treatment of this oftentimes intractable disease. He thinks the great obstacle in the way to success in the employment of aseptic treatment is the lack of constant drainage. Flushing out the bladder with sterilized water—even boric acid solutions—is not sufficient. Even a saturated solution of boric acid fails to destroy pus cocci in two hours. The urine in the bladder is a fertile soil for the rapid growth and development of various bacteria, and their ptomaines. Especially is this true when a small amount of residual urine occurs—the urine in these cases being often loaded with the products of inflammation and decomposition.

The difficulties met with in the treatment of this bladder trouble by means of the stronger and more efficient antiseptics are two-fold: 1. When they are used in sufficient strength to act as germicides, they are powerful irritants to the delicate mucous lining of the bladder, and their use is attended with considerable pain. 2. They exert their influence on the inflamed membrane only while applied, which usually is a very short time.

What we want in the treatment of cystitis is

a germicide whose irritant property is very slight, even in concentrated solution, and whose germicidal and antiseptic power is marked in very dilute solutions, and one whose action is continuous over quite a period of time.

The best article possessing these four requirements is *blue pyoktanin*. It can be applied to the most delicate mucous membrane, in concentrated solution or in powder, with but slight if any irritation. It stands high in the list as a germicide and antiseptic. It destroys the vitality of anthrax bacilli in solutions of 1:1000 and retards the development of pus cocci in solutions of 1:2,000,000. When applied to an inflamed mucous membrane, it stains the same intensely blue. This color remains for a number of days, and, of course, the pyoktanin is active as an antiseptic as long as any color remains.

Among cases reported to substantiate the claim for pyoktanin in the treatment of inflammation of the bladder and urethra was a male teacher, age 65 years, very "susceptible to cold." He had had urinary calculi. His first cystitis soon passed off, but was soon followed by another attack, and then by another, and still another, etc.—partially recovering between them. In 1894, the patient had a severe attack, requiring the frequent use of the catheter, but got little relief until 1897, after pyoktanin treatment. On first examination in June, 1897, the obstruction to the flow of urine was not due to an enlarged prostate, but to spasm of the urethra. The urine withdrawn, examined microscopically and chemically, was loaded with pus, epithelial cells and phosphates, teeming with bacteria, and giving off an intense disagreeable odor. Five-grain doses of salol three times daily soon gave the urinary reaction, for salicyluric acid, and many signs of cystitis disappeared. In a short while, this treatment was discontinued, with reappearance of the cystitis. Trikresol, 1: $\frac{75}{100}$ per cent. solution, did no practical good. Then it was that he drew off the urine with a catheter, filled fountain syringe with warm sterilized water, and flushed out bladder. With a small rubber syringe, a couple of drachms of saturated solution of pyoktanin were injected into the bladder through a catheter. A very small quantity of water is now passed in from the fountain—sufficient to free the catheter from the solution of pyoktanin. This pyoktanin is to remain a minute or two, when the bladder is filled with water from the fountain syringe, and allowed to pass out. Repeat this until the water comes back, clear of the blue tint. When the inflammatory trouble is very severe, the patient usu-

ally suffers quite a good deal of pain several hours after treatment, but this is readily relieved by one-grain doses of codeine. Repeat treatment about every ten days until well. Seven or eight treatments cured the patient.

Coca Erythroxyton.

The Provincial Medical Journal, London, Eng., notes the fact that M. Mariani was the first in Europe to take up the study of this plant, and over 35 years ago commenced manufacturing for the medical profession the various specialties associated with his name, as "Vin Mariani," etc.—preparations known the world over for their purity and efficacy. While the leaf of the coca erythroxyton is the only part of the plant used, very much depends upon the manner and time of its plucking, and its subsequent care—affecting very materially the preparations made from it. The stimulating and strengthening property of the natural leaf has been known for centuries by natives, experienced travellers and botanists. M. Mariani has succeeded in preserving this invigorating property in a palatable form as *Vin Mariani*. This wine is indicated where there is great depression, long continued exhaustion, and where a special stimulative action is desired. It is agreeable, palatable, by its diffusibility, imparting a pleasant warmth over the whole body, and exciting functional activity of the cerebro-spinal nerve centres. *The Journal* adds: "We have frequently prescribed this wine, and we can, from practical experience, recommend it."

Book Notices.

Annual and Analytical Cyclopædia of Practical Medicine. By CHARLES E. DE M. SAJOUS, M. D., and One Hundred Associate Editors, Assisted by Corresponding Editors, Collaborators and Correspondents. Illustrated by Chromo-Lithographs, Engravings and Maps. Vol. I. Philadelphia, New York, Chicago. The F. A. Davis Company, Publishers. Royal 8vo. Pp. 601—x.

This is the first volume of the substitute for the *Annual of Universal Medical Sciences* which was started just ten years ago. We look upon the substitute as a great improvement, which will render this "Analytical Cyclopædia" invaluable to all practitioners. We do not know that we can better explain the plan of this new *Annual* than by excerpting from preface, which we have to make quite full in order that we

bring the scope of the new work properly to the attention of the reader. "Whenever a new line of thought is introduced, the subject modified by the new point adduced must be recalled, and former propositions tending to transform both the older and the newer conceptions of the subject must be simultaneously considered." While writers, teachers and investigators fully appreciated the former "Annual," it did not satisfactorily fulfill its mission among general practitioners. Hence, "instead of presenting excerpts from the year's literature, arranged in order under a general heading as before," in the present edition, *each disease*, including its subdivisions of etiology, pathology, treatment, etc., "is described *in extenso*, and the new features that the year has brought forth are inserted in their proper place in the text." Thus the reader has before him what in the older work was left to his memory. "The work, when completed, will present all the general diseases described in text-books on practical subjects," "and inserted in their logical order in the text, all the progressive features of value presented during the last decade." "If the year brings forth nothing new upon any particular disease, the latter will, at least, appear as it was when last studied—whether this be one, two, five or twenty years before. The general arrangement adopted will make it possible to cover the entire field in six volumes." "Instead of having at their [the readers'] disposal only the reviews of a single year, as before, they will have those of practical value published during the last ten years." "Being interpolated in the text, and controversially arranged, the abstracts either sustain the views advanced or indicate fields as yet insufficiently explored. This arrangement necessarily precludes chronological order"—the aim being to treat the various subjects in an essentially practical form. Large type is used to give general description of a disease; small type to present excerpts from journals. A number of subjects had to be prepared *in toto*. "To facilitate the use of the work the subjects have been arranged in alphabetical order—the references being given in full at the end of each abstract." Volume I includes all subjects that could be *alphabetically* arranged between *Abd.* and *Bright's disease*.

We have been so prolix in explanation of the scope of the new "*Annual*" because its merits and utility justify it. It is undoubtedly the best of the *Annals*, if each succeeding volume equals the first. It is the *annual* for the general practitioner, if he can afford only one such work a year.

A System of Medicine by Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M. A., M. D., LL. D., F. R. C. P., F. R. S., Regius Professor of Physic in University of Cambridge, etc. VOLUME VI. 66 Fifth Ave., New York: The Macmillan Co. London: Macmillan & Co., Ltd. 1898. Cloth. 8vo. Pp. 1058—xv. Price, \$5.

This volume continues the consideration of diseases of the respiratory organs, taking up "bronchitis, bronchiectasis, pneumonia, phthisis pulmonalis, pneumoconiosis, pulmonary aspergilliosis, emphysema of the lungs, asthma and hay fever, and syphilitic disease of the lungs." Some 55 pages follow on diseases of the pleura. The remainder of the volume—over 600 pages—is given to "diseases of the circulatory system." The Editor explains why Dr. Welch's paper on "Thrombosis and Embolism" has to remain over till the next volume.

As this *System* approaches completion, its special excellences appear. The very best of authors for particular articles have been selected; so that they all practically bring out the very latest facts developed. Space at our command limits this notice merely to a statement of our estimate of the worth of the *System* without affording opportunity for presenting the evidences upon which such opinion is based. As to its practical use to the physician it is invaluable. While there is just enough of discussion in each section or chapter to interest the reader, the general character and effect of each is to furnish the practitioner with practical deductions and advice which helps at the bedside. A good deal of it is English authorship which makes it the more useful to the American, who already is presumed to be familiar with the authors of his own country. In the volume before us, for instance, we notice that the Editor himself discusses the subject of aortic stenosis and regurgitation under the head of "disease of the aortic area of the heart," which we regard as a most useful way of the more thoroughly teaching the subject. His postscript, contradicting some statements in the text concerning pulse delay, throws a rational light upon the generally assumed view that the systole of the heart is relatively constant in duration. He refers to tracings in one case, at least, of pure compensated aortic regurgitation which prove that the systole may be relatively prolonged. It means that in failure of compensation in aortic insufficiency the exhaustion must occur in a proportionately shorter period of years. Notwithstanding the fact that we refer to an article in which the author contradicts himself and thus modifies

some of his own conclusions, it also shows the honest intent of the paper to conceal nothing which would give to the writer higher eminence than he deserves for thorough candor.

Atlas and Abstract of Diseases of Larynx. By L. GRUNWALD, of Munich. *Authorized Translation from the German.* Edited by CHARLES P. GRAYSON, M. D., Lecturer on Laryngology and Rhinology in the University of Pennsylvania; Physician-in-Charge of the Throat and Nose Department, Hospital of University of Pennsylvania, etc. With 107 Colored Figures on 44 Plates. Philadelphia: W. B. Saunders. 1893. Cloth. 8vo. Price, \$2.50 net.

In every respect, this volume maintains the standard promised in the announcement of the series of "Saunders' Medical Hand Atlases." There are 102 pages of text devoted to anatomy and physiology of the larynx, methods of examination, general remarks on the cause and treatment of diseases of the larynx, etc. Then follow descriptions of acute and chronic inflammations of the parts, neoplasms, disturbances of motility, of sensibility, and of circulation of the larynx. Other chapters relate to solutions of continuity, foreign bodies in the throat, and to malformations. These several sections or chapters note the etiology, point out the local phenomena, make prominent the general symptoms, describe the course of the diseased condition under consideration, give the essential items to aid in diagnosis, and lays down the most approved guides for treatment—often-times detailing lines of treatment which have been found best. Yet all of this is less than half the book. The remainder of the book is taken up with plates and descriptions of the drawings—illustrations have a rare fidelity to nature. As a whole, this *Atlas* is a most valuable help to the clinician in matters of diagnosis, in appreciating appearances, etc.

Hay Fever, and its Successful Treatment. By W. C. HOLLOPETER, A. M., M. D., Clinical Professor of Pediatrics in Medico-Chirurgical College of Philadelphia, etc. Philadelphia: P. Blakiston's Son & Co. 1898. Small 8vo. Pp. 137. Cloth. \$1 net.

The subject of this monograph is one of widespread interest. For many years, it has been believed that the three great causative factors of this fever are an exciting cause—generally pollen—a neurotic habit and a local morbid condition of the nasal mucous membrane—the local morbid condition, perhaps, having become the most prominent in the eyes of specialists. While the book is full of interest in all its descriptions and discussions, its great value centres in the chapter on Treat-

ment, in which the claim is made that of over 200 patients within the past ten years, he has had "remarkable and uniform success with a simple treatment." Viewing the exciting factor in originating the paroxysms as undoubtedly "infection and disturbance of the nasal mucous membrane," our author tells us to first find out whether any abnormal condition renders the nasal mucous membrane supersensitive, or possesses any well marked defects, as polypi, deviated septa, hypertrophies, etc., and to correct it as far as possible. The author believes, however, that, as a rule, "local disease is only incidental, and not in any way provocative, except as it renders the surrounding mucous membrane unhealthy." So that, "only when gross lesions exist is surgical treatment indicated, and then it should precede the usual sterilization methods."

Because it appears to be so simple, and yet so effective, we detail the plan of the author—referring our readers to the department of Analyses, Selections, etc., in this issue.

The book is well written, intensely interesting, and thoroughly practical; and withal it is cheap. An unusually full bibliography is appended; and yet we fail to find allusion to some of the important contributions to the subject by Dr. Joseph A. White, of this city.

Atlas of Legal Medicine. By DR. E. VON HOFMAN, Professor of Legal Medicine and Director of the Medico-Legal Institute at Vienna. *Authorized Translation from the German.* Edited by FREDERICK PETERSON, M. D., Clinical Professor of Mental Diseases in the Woman's Medical College, N. Y.; Chief of Clinic Nervous Department, College of Physicians and Surgeons, assisted by ALOYSIUS O. J. KELLY, M. D., Instructor in Physical Diagnosis, University of Pennsylvania; Adjunct Professor of Pathology, Philadelphia Polyclinic, etc., etc. *56 Plates in colors, and 193 illustrations in black.* W. B. Saunders. Philadelphia. 1898. 12mo. Cloth. \$3.50 net.

This work is, in the true sense of the word, an Atlas, everything else being subservient to the illustrations, which are entirely original and unusually fine. The descriptive text is by no means inferior, however, and the book is a valuable one for the practising physician as well as the student of medicine. It is intended as a supplement to a good text-book rather than a text-book in itself, and therefore the author has omitted many of the illustrations found in such works, which not only reduces the price, but gives place to other important features. The work of the translators is excellent, preserving, as they do, the style of the author, and making all clear and explicit.

Editorial.

Medical Society of Virginia.

The session to be held August 30, 31, and September 1, 1898, at Virginia Beach, is going to be a very great success. Although less than a week ago at this writing the postal card requests for titles of papers were issued, a number have been sent the Secretary. It was a fortunate choice of the Society to select Dr. Lewis E. Harvie, of Danville, Va., as President, for he has shown his appreciation and indefatigable zeal in hard work—even during this heated season—for the promotion of every interest of the organization. His influential popularity with the doctors of the State is telling in good results.

The Seaboard Association of Virginia and North Carolina

Will hold its semi-annual session at *Virginia Beach, Va.* (instead of Nag's Head, N. C., as the hotel will not open this season), Thursday and Friday, July 14 and 15, 1898. Reduced railroad and hotel rates are promised. A full turnout of leading physicians of Eastern Virginia and North Carolina is expected. Titles of papers or reports of cases to be presented should be at once communicated to the Secretary, Dr. John E. Phillips, Suffolk, Va. Dr. Junius F. Lynch, Norfolk, Va., is President. They are active, pushing officers.

The Virginia Pharmacal Co., Richmond,

Have hitherto given particular attention to fluid extracts, elixirs, special formulæ, etc., which have attained a high standard. They are now making a "special run" on tablets—triturations, compressed, and hypodermic. The same care characterizes this department of their laboratory as belongs to their fluid extracts, etc. The tablets are made without excipient, are in a dry, porous, and pulverous condition, speedily disintegrate, and are readily absorbed—the remedial agents remaining in the same condition as when administered in powdered form. Trituration is thorough, and subdivision of the remedy absolutely accurate. Prices are as low as possible consistent with the cost of the best of reliable ingredients, and should not be compared with those products offered at less than prime cost of the best quality of crude material. Physicians will be cheerfully supplied with samples and price list on application to the company.

Schools of Biology and Physics in Academic Colleges.

One who has familiarity with the scientific courses in some of our prominent academic colleges is not surprised at the able stand graduates of such schools take in the leading medical colleges of the country, and at the high rank which they attain early in their professional life. Beginning their studies with a thorough appreciation of matters of essential importance to the progressive study of medicine, they stand well in their classes, and give good records of themselves when they come before State or other official boards of medical examiners.

We have been looking over a little pamphlet, "The Lemon and Black," issued by Randolph-Macon College, of Virginia, which pictures the student's life at that college. It is the more life-like in that it has been prepared mostly by students who have gone over the grounds, and represents their impressions of the interior workings of the college.

So far as the scientific schools are concerned, one is amazed at the completeness of equipment and thoroughness of instruction in them. Indeed, they surpass those to be found in most

medicine in after-life to be in position to appreciate the principles upon which this branch of science is founded.

Having permission to use the drawings as given in "The Lemon and Black," we present those relating to the Schools of Biology and Physics in Randolph-Macon College. These schools are under the charge of Dr. A. C. Wightman, who takes interest in his work. He is a native of South Carolina, received his first degree at Wofford College, then went to Johns Hopkins, where he received his Doctors Degree in Biology and related subjects. His proficiency was soon recognized by being appointed Senior Demonstrator in Physiology. In the further prosecution of his studies, he did Botanical work at Harvard, etc.

Quoting from the "Sketches of Student Life," to show the scope of instruction in Biology and Physics in this Academic College:

"The term *Biology* is so often misapplied that many fail to get a correct idea of its breadth and meaning. In the two years' course here it includes a study of every living thing. The work begins with the lowest forms and considers the microscopic structure and life-history of such types as Yeast, Torula, Hæmatococcus, Amœba and other single-celled organisms.



BIOLOGY AT RANDOLPH-MACON.

medical colleges. Professors with special qualifications are provided who make the subjects of interest to the students—preparing those of them who propose to take up the study of

We trace the characteristics of each and show that the same laws govern the higher forms.

Plants, with such jaw-breaking names as *Bacillus Subtilis*, *Mucor Stolonifer*, *Spirogyra*

Longata and Pteris Aquilinia, are lectured upon. It is easy for the skeptical to think that the Professor is not speaking the truth when he tells marvellous tales of the beauty of these little plants. Soon you get them under your microscope, and it dawns upon you that the half has not been told. To see the specimen and to know that you are looking at a living thing is a delight and an inspiration. That



AT WORK WITH A HIGH-POWER MICROSCOPE.

is our work in the laboratory. Each student is supplied with an excellent microscope, staining reagents and other necessary articles.

The embryology of the chick receives the attention that its importance deserves. Each of us incubates the eggs, mounts the embryos, and studies them with his microscope. We trace the development of the heart, brain, and other organs until all are completely formed. We compare these with simpler types and see the prediction of these differentiated properties in the lower forms.

Some weeks are given to Botany, and the properties and organs of plants are demonstrated. Each student prepares an herbarium. The course concludes with a study of the earth-worm and crayfish as advanced types.

When we have mastered the work described in the foregoing it is but half of what is in store for us. The Senior Class commences with the comparative anatomy of invertebrates and proceeds until human physiology is reached. We draw and describe each bone of the skeleton, study connective tissue, cartilage, muscle, the development of the brain and spinal cord, and of the blood of mammals.

The laboratory work includes the classification of proteids, the chemistry of the salivary, gastric and pancreatic digestion, and experiments on muscle-curves and on recording pulse, heart, and respiratory tracings.

The work is philosophical in its purpose, and

the relation of the working of the organs to the nervous system is the guiding principle. The latest views of modern physiologists are discussed, that the students may be alive to all advances in the science. Our work has received the commendations of the best universities in America, where our students have been found unusually well prepared.

This work taught me how to think more ac-



RECORDING PULSE MOVEMENTS.

curately and consecutively. I found myself continually looking back to see the connection with what preceded. The whole course was a revelation to me, and I could not but regard my body as a most delicately adjusted and differentiated piece of machinery, created for a wise purpose.

Dr. Wightman also has charge of

PHYSICS,

which is one of the subjects that helps in making a college course practical. This is the foundation of all sciences; and as an educator it is fully equal to other subjects. It is constantly used in the affairs of every-day life; and a more extended application of the principles of the science will further contribute to the material progress and development.

It is true that many successful inventors have not enjoyed a liberal training in science. They have succeeded in spite of obstacles; and they would doubtless have accomplished more had their minds been trained by a suitable course of study.

But some may ask, "What advantage will this study be to the farmer or merchant?" It will train his mind, and if he is acquainted with the forces he constantly uses, he can employ them to better advantage.

If any of my young friends desire a rigorous course in this subject where the advantages are excellent, permit me to suggest that he come to

Randolph-Macon. The work is not only highly instructive, but it is made interesting. Thor-



SEARCHING FOR A BULLET WITH THE X-RAY.

ough work is done in the text, and besides Dr. Wightman, assisted by the students, makes about two hundred experiments in class. Each student is given experiments to make outside, on which the work is subsequently reported to the class. By the end of the session one comes



A BULLET FOUND WITH THE X-RAY.

to feel that the Universe is not an accidental combination of forces, but all are harmoniously acting together for a common purpose.

The department is well supplied with apparatus, and additions are constantly received. An X-Ray apparatus of the best make is the newest arrival, and with it bullets in a number of hands have been located.

The Atlanta College of Physicians and Surgeons

Is the result of a very unexpected coalition of the Atlanta with the Southern Medical Col-

lege. The *Southern Medical Record*, June, 1898, says: "The ease and facility with which old wrongs were adjusted, old grievances wiped out, all differences settled, and consolidation effected, clearly demonstrated the superficiality of prejudice on both sides, especially when measured against the general good of the profession." "Details of the disposition of lecture rooms and dispensary department have not yet been arranged, but it is probable that the Southern building will be used for the clinics." Dr. A. W. Calhoun, Professor of Diseases of the Eye, and Ear, Nose and Throat, is President of the Coalition, and Dr. W. S. Kendrick, Professor of the Principles and Practice of Medicine, is Dean. The combination, we trust, will earn such distinction in the list of Southern Colleges which the merits of the Professors chosen justify us in expecting.

American Medical Association and Southern Colleges.

In the editorial on this subject [page 185 of this journal, June 24, 1898], a glaring omission of the printer occurs at the end of the first paragraph. We had intended that the paragraphs on pages 169 and 170 of the same issue relating to "Medical College Requirements," should be repeated. Those of our subscribers who bind their journal when the annual index is published should make a proper page reference at the point indicated on page 185.

Dr. James N. Ellis.

Formerly of Richmond, Va., has just returned from a two years' tour of Europe, attending the International Medical Congress in Moscow, as a delegate from the Medical Society of Virginia, and various medical colleges and private clinics in Europe. He was the able demonstrator of anatomy in the University College of Medicine, Richmond, Va., before leaving this country. He has arranged to move to Atlanta, Ga., where his special qualifications as a doctor will, we trust, soon win for him the position of eminence in the Georgia profession to which his fitness entitles him.

Dr. Luther B. Grandy, Atlanta, Ga.,

Has been appointed surgeon with the rank of major of the Third Regiment, Georgia Volunteers. Governor Atkinson has before this distinguished himself by the excellence of his medical appointments. Scarcely could a more popular Southern Surgical commission have been issued than the one to Dr. Grandy. He leaves a large and influential practice in Atlanta to respond to the call of his country.

Selection of Camps Near Cities.

The results of the past week about Santiago will undoubtedly lessen the period of the war, and it will not be long before the decisions of the American-Spanish war will be changed from the battle-field to the terms that may be proposed and agreed upon in courts appointed to arrange for peace. It is simply foolhardy for the Spanish army, and what is left of that navy, to further contest the matter at the point of the sword. Until, however, Spain recognizes her defeats, it is necessary for the United States to continue the organization and mobilization of its volunteer armies. These troops, in the process of organization, are given camps near cities. Of course such camps should be selected with regard to the welfare of the soldiers. But we protest that it is not necessary to establish such camps along the banks of water courses from which the cities derive their drinking water supplies. There has been an urgent demand on the part of some thoughtless people, for instance, to establish the camp for instruction of the Colored Volunteers of Virginia at a point along the banks of that part of James River from which the reservoirs of Richmond City are supplied. Simply to mention the fact ought to be sufficient for the authorities in the case to prohibit it. And we write this note, not to argue the question, which needs no argument, but simply trusting that it may fall under the eye of the proper official who selects sites for soldier camps. There are plenty of other places around about Richmond as other cities well suited to the purposes of such camps without endangering the contamination of the drinking water of the cities.

We are sorry that we cannot speak approvingly of the condition of some of the military camps as they were about Richmond a few weeks ago. With any abundance of water that might have been freely piped all over the camps, it does not seem that enough attention was paid to the cleanliness of the quarters and surroundings. Especially should great care be taken as to condition of sinks used by the soldiers and as to the disposal of garbage. Not only neatness of camp appearance, but the healthfulness of the men greatly depends on attention to just such things.

Exhibitors at Denver Meeting of American Medical Association.

We were glad to see the *Journal of the American Medical Association*, June 18th, devote so much space to notices of the Exhibitors and their Exhibits at Denver last month. Without

them during a Society session, a great loss is felt—an opportunity to see and examine for one's self what is new. Among those of special interest at Denver whose exhibits were good, and instructive to doctors, the *Journal* makes note of the following:

Dios Chemical Co.—This progressive pharmaceutical house had one of the most attractive exhibits. *Dioviburnia*, which has been known to the medical profession for over twenty years as the most reliable uterine tonic, was lauded very highly by many of the leading gentlemen in attendance. *Neurosine* is the only combination of bromids which will not irritate the stomach, and is the strongest nerve sedative attainable. *Sennine* is the first satisfactory substitute for iodoform.

Fassett's Bureau of the Medical Press.—An interesting feature of the exhibit hall was the Medical Press Bureau, conducted by Charles Wood Fassett, and composed of the leading periodicals of the country. The following is a list of the journals represented: *Journal of the American Medical Association*, *Alienist and Neurologist*, *Philadelphia Medical Journal*, *Chicago Clinic*, *The Laryngoscope*, *Medical Herald*, *Medical Sentinel*, *Medical Summary*, *Medical Index*, *Milwaukee Medical Journal*, *Medical Fortnightly*, *Philadelphia Polyclinic*, *New York Medical Journal*, *Virginia Medical Semi-Monthly*, *Western Medical Review*, *Alkaloidal Clinic*, *American Medico-Surgical Bulletin*, *American Medical Journalist*.

Globe Manufacturing Co.—The largest, most complete, and practical exhibit of atomizing apparatus was shown by the Globe Manufacturing Co., of Battle Creek, Mich., consisting of the latest improved hydraulic air compressors, single and double acting hand air pumps. The Globe nebulizers, which are acknowledged by recognized authorities as being most reliable and efficient goods of the kind, were successfully demonstrated as having the widest range of usefulness, and their office instrument having the best adjusting valve for middle ear and pulmonary inflation.

Imperial Granum, recognized by many leading physicians as the standard among prepared foods, occupied a prominent space, and the representative in charge was kept busy explaining to the visiting physicians the superiority of this preparation; also describing their compact and complete Clinical Record. Handsome sample boxes of the food were presented to each physician in attendance, as were also copies of the Record. Few were seen leaving the handsome exhibit hall without taking with them reminders of the ever popular Imperial Granum.

Mellier Drug Co., proprietors of Tongaline and Ponca Compound, were prominent among the exhibitors at the American Medical Association meeting, and represented Mr. Albin Mellier, President, and Mr. Walter C. Taylor, Vice-President. The exhibit was handsome and unique; the most attractive feature, however, was a photo-engraving, 24x36, of the first meeting of the Medical Society of London, 1773; 500 copies of which they gave away to the doctors in attendance. Those who were not fortunate enough to secure one of these beautiful and artistic pictures can obtain same by sending their address to the above firm.

Parke, Davis & Co., Detroit, Mich., presented an interesting and scientific display of biologic products. It included all the pathogenic and chromogenic bacteria, of which many were exceedingly rare. In addition to these, the various serums manufactured by them were shown. These included antidiphtheritic serum of unusual concentration; also antistreptococcic, antitetanic and antitubercle serums in aseptic containers, microscopic slides of various common pathogenic bacteria, and samples of their different culture media. Dr. Takamine demonstrated the action of diastase upon starch, the whole making an interesting and instructive display.

The Medical Publishers Represented were—

Messrs. D. Appleton & Co., New York.

Messrs. Lea Brothers & Co., New York.

Messrs. J. B. Lippincott & Co., Philadelphia.

The Macmillan Co., New York and London.

Mr. W. B. Saunders, Philadelphia.

Old Point Comfort, Va., for Army and Navy Hospitals.

We sympathize with health and pleasure seekers in that they have to give up their plans to visit the Hygeia and Hotel Chamberlin this summer. The hotels of national repute were built by permission on Government land, with the understanding that they might be removed under any military necessity, or otherwise used for U. S. Army or Navy purposes, if so required. Under a recent order these buildings are to be transformed into hospital uses at once—to receive the wounded and sick from the U. S. Army since the battles about Santiago de Cuba. Planned and built for the pleasure and comfort of the banker and millionaire tourists or health-seekers of the country, on sites that furnish the best of ocean views, fanned constantly by incoming sea breezes, in easy touch with Richmond, Washington, Baltimore, Philadelphia, New York, etc., a more desirable, healthful place could scarcely have

been selected. But unfortunately these wounded and sick soldiers of the nation—now *en route* to these most excellent buildings for the purpose—are coming in just at the beginning of the mosquito season, which usually lasts until about the middle of September. Of course, many of these soldiers will be granted home furloughs and thus will escape the still hot season of August, especially. To provide for others whose wounds or illnesses will permit their further removal, it would seem wise for the U. S. Government to secure some of the many mountain or springs resorts for the summer—leaving the Chamberlin and the Hygeia hotels (or hospitals, as they are now to become,) as receiving and distributing hospitals for the summer. Especially would such a plan commend itself if other battles like that of Santiago are to be fought. Midsummer is not a desirable season for the wounded and the sick to remain at any point on the seacoast south of the Long Island coast. It is the season when all residents of that section who can forsake their homes and hie away to the mountain resorts—beginning scarcely 200 miles west—on the direct line of the Chesapeake and Ohio railway, a terminus of which is at Old Point Comfort. Soldiers who have endured so much of tropical heat, who have fought so valiantly, and have suffered wounds for their country's honor in a war of humanity, are entitled to the best provisions the nation can afford for their comfort and escape from mosquitoes, swamps, sultry sun, etc. For the other ten months of the year than from the middle of July to the middle of September no place in the United States can be better suited for a military hospital than Old Point Comfort, Va.

While we are in press, telegrams from Washington do not confirm the statement that the two hotels at Old Point have been condemned for U. S. Hospital purposes; but simply the Hospitals for the sick and wounded of the army and navy will be established at Old Point Comfort, Va.

Doctors Belligerent.

During the excitement of electing a President for the ensuing year of the California State Medical Society, a personal collision occurred between Dr. Samuel O. L. Potter and Mac Monagle. Mutual apologies followed.

The Advertisements of the Medical Department of Vanderbilt University, the Medical College of Alabama, etc.,

We regret, were received too late for this number, but will begin in the next issue of this journal.

Bubonic Plague or Glandular Fever

Is again threatening to become a widespread epidemic throughout China and India. It has been prevailing in Hong Kong for some time and other parts of China; and early in May of this year it began in Calcutta, and caused such fright that over 400,000 of the total population of about 800,000 have fled the city. This horrible disease should attract more attention of Americans than it does. It is an infection, as we pointed out over a year ago, that peculiarly attacks rats, and diseased wharf and ship rats may become the unsuspected media of infecting vessels coming to this country, or going elsewhere. The diseased rats make their beds in the clothing of passengers, or merchandize in cargo, and thus, with all the precautions possible as to the quarantine of individuals exposed to the disease, the plague may yet be introduced into at present unsuspecting and uninfected ports. Manilla, with our gallant sailors and navy forces, is not out of the climatic territory of the disease.

Galvanism to Detect Diseased Teeth.

Aldini, nephew of Galvani, discovered that it was possible, by the aid of galvanism, to distinguish good teeth from bad. The passage of the current through the teeth gives rise to no discomfort when healthy; but its application to a decaying molar, for example, is followed by violent pain, "and an involuntary emotion in the body." The *Medical Press*, June 15th, from which the above is extracted, goes on to say that, "now that their attention [dentists] has been called to a discovery some centuries old, there will be less excuse than ever for such a blunder" as that of removing a sound tooth by mistake.

The British Medical Association

Will hold its Sixty-Seventh Annual Meeting in Edinburgh during the last week of this month. Sir Thomas Grainger Stewart is President. A *Section on Tropical Diseases*, presided over by the well known authority on such subjects, Dr. Patrick Manson, will hold its first session. Indeed, this is the first Section of the kind to be established in any Association.

The Medical and Surgical Monitor, Indianapolis.

On June 15th, 1898, entered the journalistic field as a competitor in the cause of furnishing in the smallest space the greatest quantity of medical news, etc.—not as an antagonist. It is a good \$1, 32 octavo page journal, and ought to meet with support.

Cobalt Nitrate Antidotes—Hydrocyanic and Cyanide Poisoning.

A correspondent in the *American Practitioner and News*, June 1, states that a chemist is said to have found that cobalt nitrate is an effective antidote in both hydrocyanic and cyanide poisoning. Successful in trials on animals, its application has been extended to some forty cases of poisoning among human beings, and proved successful.

The Canadian Medical Association

Will hold its Thirty-First Annual Session at Laval University, Quebec, August 17-19, 1898.

Obituary Record.

Dr. John Blair Gibbs.

At a meeting of the medical staff at the Demilt Dispensary, New York city, held June 17th, 1898, the following resolutions were unanimously adopted:

Whereas our late associate, Dr. John Blair Gibbs, while acting Assistant Surgeon in the United States Navy, died on the field of battle during an attack by the enemy at Guantanamo, Cuba, on the 12th day of June, 1898; and

Whereas, as associates, we had reason to respect his professional fervor and attainments; and

Whereas he voluntarily left a lucrative practice and a life of comparative ease in response to his country's call to arms, and was among the first to fall in the defence of his country; therefore, be it

Resolved, That by the death of Dr. Gibbs the medical profession has lost an active, conscientious member.

Resolved, That we deem it a privilege to have been associated with Dr. Gibbs, whose self-abnegation and devotion to his country merit the praise of the nation.

Resolved, That copies of these resolutions be forwarded to the medical press and to the family of the deceased.

Signed by Committee: Doctors Charles H. Bushong, J. Dougal Bissell, N. G. McMaster, Frank N. Patterson.

To Check Epistaxis,

Inject a glass syringe of lemon juice into the nose, after it has been cleansed of clots. This treatment (says *Med. Summary*) will stop bleeding after everything else has failed.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

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Original Communications.

SOME ABDOMINAL CASES.*

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It is a source of regret to me that I have not, for the past ten or fifteen years, kept the pathologic specimens that have come from the various operations I have performed, because great benefit may be derived later on from a correct study of these specimens. With this in view, for the last few months I have kept all specimens worth preserving, concerning a few of which I speak to you to-night, giving a brief history of the cases from which they were obtained.

CASE I.—The first specimen I wish to show was taken from Mrs. R. D. B., aged twenty-four years, referred to me by Dr. J. P. Haller, Pocahontas, Va. Admitted to the Old Dominion Hospital January 17, 1898. Previous history uneventful save an attack of typhoid fever six years ago. Married six years; one child five years of age; no miscarriages. For two years has suffered with leucorrhœa and very painful menstruation. Periods have not appeared for five months.

An examination of this case, made on the 18th day of January, revealed a large, globular tumor in the lower part of the abdomen, some enlargement and swelling of the breasts, discoloration of the nipples, and fluid in the breasts. On minuter examination fetal movements could be feebly discerned. A digital examination by the vagina revealed a large and eroded cervix, and inspection discovered a large ulcer upon the cervix which turned out to be a carcinoma.

This condition confronted us: Here is a woman only twenty-four years of age present-

ing a carcinoma of the cervix, complicated by pregnancy advanced to fifth month. Complete hysterectomy was the only course for her relief. I thought it a pity to sacrifice the child, and therefore determined to keep her under observation to discover whether or not the disease was making rapid strides. It was ascertained that the spread was slow. I therefore determined it would be justifiable, so far as the woman was concerned, to defer any operative interference until the child was at least viable. I recommended a return to the hospital after the termination of the seventh month of pregnancy.

She was readmitted to the hospital on the 13th day of March and was operated upon on the 22d. The operation was the Porro, and the anesthetic used was chloroform. All of the ordinary preparations of the patient were made. The first step in the operation was the complete destruction of the cancerous tissue of the cervix by means of the galvano cautery. A long, free incision was made in the abdominal wall, and quickly carried down to the uterus which was exposed and delivered through the wound. Two loops of a large elastic ligature were thrown around the cervix but not tightened. An assistant grasped the cervix firmly with the hand to control bleeding. The uterus itself was then incised by a free and rapid incision and immediately the child was delivered, cord clamped, and child turned over to the accoucheur. The ligature around the cervix was at once tightened and clamped, and when this was completed a large pad of gauze was put into the uterus and two stitches of pedicle silk were made to close the uterine incision. No attempt was made to dislodge the placenta, and a gauze sponge was placed in for the purpose of absorbing any oozing that might occur, thus diminishing the risk of contaminating the peritoneal cavity. In the meantime the intestines had been protected by large sheets of gauze. From this point on, the operation was one of simple hysterectomy. The ovarian vessels were ligated, divided be-

* Read before the Richmond Academy of Medicine and Surgery, July 12, 1898.

tween the ligatures, and then the uterine arteries were secured, the vagina opened from above, the cervix dissected out, as was also the upper portion of the vagina. As soon as this was accomplished, the proper toilet of the peritoneum was made and the wound closed by through-and-through silk-worm gut sutures. I have long abandoned the practice of closing the abdominal wound with tiers of sutures, using only through-and-through sutures of silk-worm gut. Vagina drainage was used.

This woman made a very happy recovery. The child, which was rather poorly nourished, perished at the end of two and a half hours. The second day there appeared in the breasts

at twenty-seven, but never had any children. Menstruated at seventeen, after which courses were regular, but attended with much pain since marriage. Has considerable leucorrhœa and bloody discharge. About eighteen years ago, consulted a physician in this city, who told her she had a small fibroid which would disappear at change of life. Not troubled again until June of last year, since which time she has had six attacks, each of increasing severity, of intense pain in abdomen, accompanied by some bloody discharge, and confining her to bed for several days during each attack. Admitted to the Old Dominion Hospital May 3, 1898.

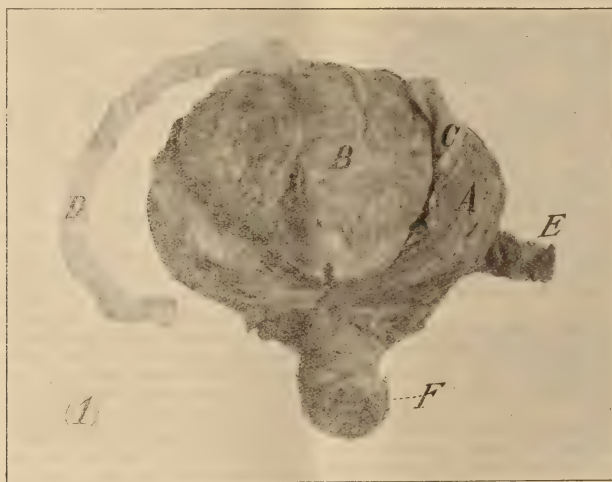


FIG. 1.—Uterus and placenta from Case 1. A, Incised wall of uterus; B, Placenta *in situ*; C, Fetal membranes; D, Umbilical cord; E, Left ovary and tube; F, Cancerous cervix.

a considerable flow of milk which was suppressed by the application of the so-called Murphy jacket. The specimen from this case [see fig. 1] shows the uterus with placenta firmly attached, the umbilical cord and portions of the fetal membranes. I was much struck in this instance, as I have been in others, to see the extent to which very muscular specimens shrink after removal.

CASE II.—The next specimen, a rare one as presenting a very curious combination of pathologic conditions, is from the case of Mrs. A. V. W., referred to me by Dr. H. C. Beckett, Clover, Va. This patient, a white female, aged fifty years, gave the following history: Married

An examination of this patient revealed the uterus perhaps five times as large as normal, nodular, and somewhat depressed, the cervix being within easy reach of the examining finger, which also revealed an ulcer upon the cervix, and the further fact that carcinoma of the cervix was complicated by fibroids of the uterus.

A complete hysterectomy was undertaken, and was free from incident. Upon removal of the uterus, it was discovered that not only were there fibroids in the structure of this organ, but also a subserous fibroid, situated on the posterior surface of the uterus, and about the size of a small walnut, which had undergone

calcareous degeneration here shown. [See fig. 2.] You can hear the sound as it is struck by the nail. It was covered only by peritoneum with

CASE III.—One of the most interesting specimens I have to show you [see fig. 3] is that taken from a negro woman, Maria Prosser, re-



FIG. 2.—Uterus and appendages from Case 2. *A*, Uterus containing myomata; *B*, Nodule which has undergone calcareous degeneration; *C*, Cancerous cervix; *D*, *D*, Uterine appendages.



FIG. 3.—Uterus and intraligamentous cyst from Case 3. *A*, *A*, Two of the three large cyst cavities; *B*, Uterus.

an absence of all other tissue. In the body of the uterus other masses were plainly seen. This patient also made a perfectly satisfactory recovery, and has returned home.

ferred to me by Dr. C. M. Miller, of this city. This patient, aged forty-eight years, was married at nineteen, and has had fifteen children, triplets once. Menopause six or seven years

ago. No previous illness. Complaints of severe pain and enlarged abdomen, which symptoms were first noticed about four years ago. Pain intermittent. Four months ago had very severe attack of pain and rapid increase of swelling. Had general oedema and some congestion of kidneys, due to pressure. Occasional discharge from vagina, but no hæmorrhage.

When I first saw her in consultation with Dr. Miller, she was much debilitated, greatly reduced, thoroughly anæmic, abdomen enormously swollen, not only from the tumor, but also from a collection of ascitic fluid and oedema of the lower extremities. Examination showed a large, irregular tumor occupying lower portion of the abdomen, extending above the umbilicus, higher on the right than on the left side. The abdominal walls were very thin. Prominently shown above the symphysis was a protuberance half the size of a cocoanut, movable from side to side, and plainly attached to the tumor. The neck of the uterus was out of reach of the examining finger. The mass resembled a full bladder displaced by a pelvic tumor, but was pronounced to be the uterus with tumor attached. The diagnosis made was intra-ligamentous cyst of right side with the uterus lifted out of the pelvis. Deeming it unwise to operate in her present condition, she was put under a preparatory course, and then operated upon at the Old Dominion Hospital on May 21st.

After the incision was made, and the tumor exposed, the accuracy of the diagnosis was verified. Ordinarily, this would have been an extremely difficult case, and, in all likelihood, radical operative interference would have proved fatal. Goodell says: "These are the patients that die on the table."

We are indebted to Dr. Rufus B. Hall,* of Cincinnati, for a recent method of dealing with intra-ligamentous cysts which renders the operation almost as safe as an ovariectomy. The old method was to split the peritoneum, then proceed to enucleate the cyst. As the blood supply is very large, this meant very profound and sometimes fatal hæmorrhage. The operator was embarrassed by the great flow of blood, had to work with the utmost rapidity, his manipulations had to be carried on by the sense of touch and not by sight. Having heard Dr. Hall describe this method at the recent meeting of the Southern Surgical and Gynæcological Association, where he exhibited a specimen very similar to the one before us, I concluded

to try his method in this case, and found it to work admirably.

I proceeded to do a supra-vaginal hysterectomy, and was able to control the blood supply to the tumor. I ligated the ovarian artery on the healthy side with a double ligature, then severed the tissues between the ligatures, went down to the uterine artery on the same side and ligated it, after securing which I returned to the affected side and ligated the ovarian artery. This left no vessel of magnitude save the uterine artery on the affected side. I then severed the cervix from the good to the affected side until I reached the uterine artery, passed a ligature around this, and proceeded to lift the tumor out. *Practically, no blood was lost.*

After removal, the tumor was discovered to have three very large cavities filled with fluid and accumulated blood. One of these cavities contained a clot very firmly organized; in the others, the fluid was thin and left clean walls.

This woman did extremely well for the first three days; then, in the temporary absence of the nurse, got up and sat in a chair. Untoward symptoms developed and her life was despaired of, but the symptoms subsided and an excellent recovery followed, the patient leaving the hospital at the end of six weeks. This case is of particular interest, as occurring in a negro woman. Tumors of this type in the negro race are even rarer than ovarian tumors, which latter are almost never seen. This specimen may, therefore, be regarded as a surgical curiosity.

The next specimen [see fig. 4] is that taken from a woman recently admitted to the Old Dominion Hospital, referred to me by Dr. R. W. Fry, of Roanoke, Mrs. M. C. W., aged thirty-five years; married. Previous history: Menstruated at fifteen; regular ever since. Married at eighteen; three children and five miscarriages; last three due to lacerated cervix. Typhoid fever at the age of twenty-five. Says she has suffered with congestion of the womb for ten years, and has been treated for ulceration of the womb. Pain is most severe between periods; is located in lower part of the abdomen, extending down the thighs, especially the right one. Dr. Fry examined patient, and, finding a mass in the pelvis to right of uterus, diagnosed some form of ovarian tumor and referred the case to me. Admitted to the Old Dominion Hospital June 8, 1898. On the right side I found a mass the size of a large orange; on the opposite side there was an enlarged Fallopian tube, the nature of which I was unable to make out, though convinced it

* Trans. South. Surg. and Gyn. Assn., Vol. X, p. 184.

was a hydrosalpinx or pyosalpinx. The ovary on the left side was enlarged and very firm.

Operated upon June 11th. Upon opening the abdomen it was found that the entire pelvis was domed over by a mass of matted adhesions, the like of which I have rarely seen. It seemed impossible to enter this roof in order to get down into the crevices where lines of cleavage could be established. After a time we were successful in our attempt and began to excavate the uterus and its appendages. When this was accomplished the left tube was found in a state of hydrosalpinx as large as the thumb of a good-sized hand. The ovary on the same side contained a hematoma. The mass on the right side was discovered to be an ovarian abscess. Supravaginal hysterectomy

(which were everywhere to be felt over the fundus of the uterus, and also a tumor, the size of a cocanut, to the right of the uterus, but as to what this tumor was, I felt uncertain. I gave the diagnosis of probable dermoid cyst, and the operation proved its correctness.

The uterus was found to contain a number of fibroids varying in size from a hickory nut to a small lemon. Apparently all of them were subserous. It was therefore unnecessary to remove the uterus but do myomectomies. Therefore these four fibroids were enucleated and the button-holes through which they were removed from under the peritoneum were stitched up by Lembert sutures. The mass to the right of the uterus was enucleated, raised out of the pelvis and removed by the ordinary



FIG. 4.—Uterine appendages and portion of body of uterus from Case 4. *A*, Amputated body of uterus; *B*, Uterine canal; *C*, Abscess-sac of right ovary; *D*, Hematoma of left ovary; *E*, Hydrosalpinx of left tube (partially collapsed).

was decided upon and accomplished in the usual way, after which a glass drain was inserted. The patient made an excellent recovery. This is a very interesting specimen as showing a multitude of pathologic conditions.

CASE V.—Here is another specimen, which I regret to say has been practically destroyed by the evaporation of the alcohol from the preserving fluid. It comes from a woman referred to me by Dr. J. Bolling Jones, of Petersburg. Miss A. L. F., white, aged thirty-eight years, was in good health up to sixteen years ago. At that time noticed a protusion of the cervix. This has given her much discomfort. Marked nervousness; indigestion and nausea. Admitted to the Old Dominion Hospital December 7, 1897.

It was perfectly easy to diagnose hypertrophied cervix, descended uterus, fibroids

method of ligating its pedicle. A ventro-fixation was next performed. The cervix was found hypertrophied and within the vagina. As a matter of safety the undiseased ovary was removed, hoping to produce an atrophy of the uterus, diminishing the elongated cervix and rendering the fixation more safe. These objects were accomplished by the operation.

On examining the tumor it was found to be dermoid cyst, filled with the characteristic cheesy masses and oily fluid, and contained a great deal of long, coarse, brown hair, growing very abundantly from the cyst wall. Teeth, bone, serous and mucous membranes are occasionally found in these tumors, and by one or two observers it has been reported that tissue resembling brain substance has been found in them. This patient made a first-rate recovery.

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SOME OF THE SEQUELÆ OF GONORRHŒA.*

By JOHN C. RODMAN, M. D., Washington, N. C.

The trend of modern medicine is first, toward prophylaxis; second, the prevention of those sequelæ, or after effects of the disease, which oftentimes mar or make life a burden to those who are so unfortunate as to have been the recipients of pathogenic germs, and on whom fate has placed with a heavy hand a weight of earthly cares in the shape of those diseases which affect mankind.

It has been said that syphilis was the scourge of the ancients, responding to no then-known method of treatment, but running riot through ages and ages, from generation to generation—its death-dealing virus increasing in virulence from one subject to another, until, we can well imagine, that it could have been truthfully spoken of in those memorable words which the great poet teaches us so well describe the versatile Cleopatra,

"Age cannot wither her,
Nor custom stale her infinite variety."

A loathing disease, viewed with horror in modern as well as ancient times, both from its effects and from its usual mode of propagation; a disease which has occupied the minds of eminent members of our honored profession for centuries past; yet with all its history of recorded terrors and mortality rate in ancient times, it has been said by the still eminent members of the profession that at the present time gonorrhœa is the cause directly and indirectly of certainly more suffering, and, probably, more deaths than syphilis—a greater share of ill health being laid at its door.

If we accept this hypothesis, we can readily see whence the reasoning:—

First, There are more cases of gonorrhœa than of syphilis, individually and collectively, as a subject may have gonorrhœa many times, syphilis but once.

Second, In syphilis there has been a regular stereotyped line of treatment adopted by the profession generally, which has, and is yielding excellent results.

Third, While for gonorrhœa you can find new drugs and new methods advocated in almost every general medical journal of the present day, showing beyond peradventure, where so many lines of treatment are recommended for the same disease, that at least the profession has never definitely decided which is the best treatment to pursue, and hence, that no one method has been uniformly successful.

Gonorrhœa, as we all know, is the chief cause of organic stricture. The action of the gonococci, with the attending acute inflammation, produce effects on the delicate lining membrane, and cells of the urethra, which cannot be too well comprehended for the successful treatment of gonorrhœal sequelæ. This condition of inflammation too long continued, or too often repeated, produces, in many instances, the organic stricture, which is the second step in a series of causes and effects which tends if untreated or improperly treated to produce a diseased condition of vital organs, and hence, even death itself. Stricture of the urethra, caused by gonorrhœa, will, of itself, keep up a gonorrhœa, insidious in its development, oftentimes occupying months or years before its presence is dreamed of by the uninitiated, and just as often requiring the same length of time for its permanent cure. It will, if improperly treated or not treated at all, cause at one time or another cystitis in all degrees of severity, from the mild sub-acute type at the neck of the bladder, to the acute, highly inflamed, virulent, specific cystitis, with all its attending phenomena and pathological changes. To him who has seen a patient with virulent gonorrhœal cystitis, complicating stricture, straining to avoid urine, trembling and shaking from complete exhaustion of nervous vitality, the tenesmus constant, passing a few drops at the time, momentarily expecting even that to stop—the thought must come, how much suffering might have been alleviated if only the right treatment had been instituted at the proper time, and kept up! Most of these old cases are amenable to treatment, and if the patient be strong and robust, to permanent improvement, but pathological changes have taken place, organic disease is present, and the delicate structures of the urethra and bladder have been more or less injured for life.

The bladder inflammation is caused by the backward extension of the specific cause, and just as well may the same process extend backward to the ureters, and thence to the pelvis of the kidney (though fortunately rare), producing disease of those vital organs which have for their duty in this great mechanism of life the carrying off of waste products—sewers, as it were. Now if their functional activity is lessened, just to that degree does the body suffer, temporarily or permanently as the case may be. All of us have recognized the manifold and miscellaneous symptoms depending upon the temporarily impaired activity of excretory organs. The many indescribable nerve pains and general feelings of malaise

* Read before the Seaboard Medical Association in session at Virginia Beach, Va., July 14 and 15, 1898.

due to absorption into the general circulation of effete material, and it acting on the delicate structures of the nervous centers, cause not only the minor symptoms above described, but possibly changes in their structure, as yet not thoroughly understood—being a factor, remote though it may be, in the production of disease.

I believe that any inflammatory disease of any part of the genito-urinary apparatus has its due weight and influence, however obscure, in the etiology of renal diseases.

Any obstruction to urinary flow is abnormal, and will in time produce a diseased condition of dependent or associated organs. There are many causes of urinary obstruction, but one of the chief is stricture following gonorrhœa. Easily and successfully treated if begun at the proper time, it requires no special amount of skill for permanent cure, save that of persistency. Untreated and uncured, it may be far reaching in its effects, keeping up, as has been stated before in this paper, a latent gonorrhœa, of which the subject may be in blissful ignorance, having no discharge nor anything by which he, with his self-limited personal experience, could tell that the wary germs were still hidden in the mouths of urethral glands, or lay secure behind the wall of a beginning stricture, attenuated though he may be, but safe from the anterior assaults of an urethral gun.

Far be it from me to criticise the action of any physician, but it were better for the patient, to inform him frankly that the cessation of the discharge does not always mean a complete cure; the microscope might show that theory to be a fallacious one, and clinging to the "shreds" we might discover here and there a gonococcus, only waiting for a virgin field and pabulum, to vivify itself into renewed activity.

What better material for a sad and only too frequent picture—a pure and trusting woman, a diseased urethra, and an enriched gynecologist?

If we cure our gonorrhœal cases before discharging them, we may benefit humanity in more ways than many of us have ever dreamed of. It is our duty as members of this noble profession to leave no stone unturned, to alleviate the pangs and heartaches of mortals entrusted to our care, even if in so doing we take from the coffers of the gynecologist some few shekels that at the present time he rightfully considers his own; and also relieve our States of the care of so many blind children, bringing those of the generation to come out of the darkness which would have surrounded

them into that light which is so little appreciated by those who have it; and yet without it, an eternity of thankfulness, the wealth of nations would not suffice, to lay on the altar of medical science, for its restoration.

Were I gifted with the power of word-painting, I would place before the mental vision of my hearers a picture which I trust would add fuel to their thoughts after this meeting.

The gonococcus has played its rôle; mighty though it be, it has had its weight and influence in swelling the list of successful laparotomies by eminent gynecologists. How better can we exercise those grand principles of our noble calling, than the preservation of eyesight in innocent children; the prevention of disease in pure womanhood—thus placing a mantle of protection around the holy state of matrimony.

All this, and more, can we do by the *CURE of an ordinary case of gonorrhœa.*

PREVENTION OF SHOCK.*

By HUGH M. TAYLOR, M. D., Richmond, Va.

Professor of Surgery, University College of Medicine, Richmond; Vice-President International Association of Railway Surgeons; Ex-President Medical Examining Board of Virginia, etc.

In order to facilitate the discussion of this phase of the subject, it would be well to notice—

1st. Shock induced by mental impression.

2nd. Shock incident to trauma, *i. e.*, fractures, dislocations and extensive contusions and lacerations.

3rd. The preventive measures indicated prior to, during, and subsequent to an operation.

1. While we must admit our inability to prevent the mental impression which culminates in profound shock, and takes in the so-called traumatic hysteria or neurasthenia, I would urge that it may be within the surgeon's power to limit the degree and duration of psychical shock. Just as we educate the non-traumatic neurasthenics to realize that they are not hopelessly sick, and finally that they are well, in like manner, I believe, we can certainly, in some instances, by words of encouragement, remove the idea in the minds of the injured that the injury is serious or lasting. This idea is probably common experience, and its emphasis out of place; but

*Remarks made during the discussion on shock, during the session of the International Association of Railway Surgeons, held at Toronto, July 6, 1898.

since appreciating it fully, I am more and more of the opinion, that I have lessened suffering, and in railroad cases especially have sent men back to their work earlier, and have possibly avoided some troublesome suits for damages.

2. In the prevention of shock incident to trauma, our efforts must largely be directed to limiting the extent and duration of shock. Notably, the railway surgeon usually finds his patient shocked when he first sees him, and his interest is largely focused in limiting existing shock, and in preventing added shock.

3. The inquiry naturally arises what are the preventive measures at our command available in traumatic cases to limit shock, to prevent its increase and continuation?

Assuming that mental disquietude, pain, hæmorrhage and sepsis are the most important etiological factors in inducing shock, it seems most important to reassure the alarmed patient, relieve pain, prevent hæmorrhage, or remedy its consequences, and to guard against sepsis. Words of encouragement are, I am sure, potent for good. I would also impress the benefit incident to the timely administration of morphia to relieve the pain. Morphia does good, not only by relieving pain (an important factor in inducing shock), but I also regard morphia as one of the best of heart tonics. We all recognize the fact that the anodyne effect of morphia is not indicated in all cases, as pain is not by any means always severe in proportion to the gravity of the injury. I have often seen mashed fingers attended by excruciating pain and profound shock, while in some cases of a penetrating wound of the abdomen, even with visceral lesions, there may be little pain, and, in some instances, no shock.

Some of the speakers had disapproved of the tendency to confuse the effects of hæmorrhage with those of shock. For my own part, I think the conditions, *i. e.*, the effects of shock and hæmorrhage, are so closely related that they should be considered together. I believe we could claim to have shock in all cases of profuse hæmorrhage—*i. e.*, the shock of hæmorrhage, and possibly hæmorrhage in all cases of profound shock—this last being true if we admit that in shock and vaso-motor paresis we have the blood accumulating in the pelvic and abdominal vessels—the patient bleeding even to death into his own blood-vessels. I certainly could not agree with some of the previous speakers who failed to recognize that in hæmorrhage we have a most important and frequent cause of shock. The shock of hæmorrhage is just as much shock as the shock incident to

depressed fractures, or that from a ptomain poison from any source. The symptoms of shock and those of hæmorrhage are the same, and there are no clinical features by which we may tell the syncope of shock from that due to hæmorrhage, and no changes other than those ocular demonstrations by which we can differentiate the effects of shock from those of hæmorrhage.

Shock, syncope and collapse are terms which I have long used synonymously, and each represents to me the condition of shock. To claim that the depression incident to hæmorrhage is collapse or syncope and not shock is, to my mind, a distinction without a difference, and as such is misleading and unfortunate. I would urge that the most important mission of the surgeon is to secure hemostasis, and prevent or remedy its inevitable sequela—shock. Shock without hæmorrhage is common; but hæmorrhage without the shock of hæmorrhage is rare; and in minimizing hæmorrhage, I believe we prevent shock and limit its intensity and duration. While the contused and lacerated wounds—the type met with so frequently by railway surgeons—do not, as a rule, bleed profusely, I would ask if there were not many exceptions to this rule? And is it not a fact that not infrequently the patient has bled to syncope before he is seen by the surgeon, and that shock—nature's most potent hemostatic—has checked the bleeding? Often there is no bleeding at the time when the patient is first seen, but he is shocked; and it is eminently undesirable that shock should be added to shock by even a limited continued bleeding.

While not wishing to consider the technique best adapted to secure hemostasis and remove its consequences, as a matter of experience, I can endorse most emphatically the value of normal saline solution administered per rectum, subcutaneously, or directly into the vein. It is the remedy in which I have the greatest confidence, and have used it freely and satisfactorily in the shock incident to trauma, hæmorrhage, and in cases of post-operative traumatic and puerperal sepsis. In connection with the use of saline transfusion after trauma, I may recall the fact that the saline will pour out of open blood-vessels almost as fast as we can introduce it into the circulation; and, therefore, in conjunction with its exhibition, we must close up vessels from which it could escape.

As an illustration, in a compound fracture of the skull with profound shock, the saline solution introduced into a vein in the arm immediately poured out of the skull wound,

through a torn longitudinal sinus. Of course the patient was not benefited by transfusion. In another instance, a patient with his leg crushed off had also a torn perineum. Profound shock existed and transfusion direct was at once practiced. A tourniquet on the mangled leg sufficed at that point, but in spite of tight packing of the wound in the perineum with gauze, in a few minutes the saline solution was found puddled between the patient's thighs, and, of course, no benefit was derived.

Another point in connection with the use of saline transfusion which I think I have observed sufficiently often to warrant mentioning, is that the free use of saline transfusion—post-traumatic or post-operative—increases the amount of discharge from wounds. I have specially noticed this increase in connection with drainage after intra-abdominal operations, and it may be of service in diluting septic material and in flushing septic areas which we wish to drain. The effects of interest and value incident to saline transfusion is its power to relieve thirst, to stimulate the action of the kidneys, skin and bowels, and the elimination of ptomainic and other poisons.

It has often been with me a nice point to decide when to operate during shock to arrest hæmorrhage or to prevent its recurrence with the advent of reaction. In my experience, instances are not frequent when operative interference was imperative to arrest hæmorrhage, and increasing or recurring shock incident to hæmorrhage.

Very recently I have met with two cases which fully illustrated this point. One was a penetrating pistol wound of the abdomen, with visceral lesion in the shape of a perforation of the stomach and liver. An hour after the injury, there was but little if any appreciable shock. Three hours after, in spite of active preventive treatment, the patient was collapsed—shocked presumably from intra-abdominal bleeding. A section revealed the lesions mentioned, as also free intra-abdominal hæmorrhage. A second case occurred in connection with a celiotomy for pyosalpinx and adherent appendix. The patient was put to bed in apparently good condition. An hour subsequently the patient's pulse was 110; in two hours it was 130, and accompanied by the usual manifestations of profound shock. On reopening the abdomen, free hæmorrhage was found to have taken place from a tear in the broad ligament.

One of the most perplexing problems we are called upon to solve, especially in abdominal and thoracic injuries, is to decide whether the shock is due to trauma *per se*, or to trauma *plus*

intra-abdominal or intra-thoracic bleeding. While in hæmorrhage we should have the symptoms of shock plus the pressure symptoms of accumulated blood, I doubt if many could appreciate the pressure symptoms by the physical signs early enough to be of service. The differentiation is best made, according to my observations, by remembering that shock is, as a rule, immediate in its outset, and reaches its acme at once; and, in the absence of a continued causative influence, is not progressive or lasting beyond reasonable limits.

The shock, syncope or collapse from hæmorrhage is slower in its outset, often begins with reaction from the primary shock, and is progressive or recurring in character.

In connection with the prevention of shock, we might well consider the advantages and disadvantages incident to transporting patients to hospitals while suffering from shock. Added pain, continued bleeding, and the danger of infection through cutaneous or visceral wounds are prominent among the disadvantages of removing injured patients. The strangled hernia, the mangled limb, depressed skull, and torn abdominal viscera had often, I believe, best be operated upon at once, and, if need be, sent to the hospital for subsequent treatment.

What can we do to prevent shock if we have time to prepare the patient for the operation? When such opportunity is afforded, I am satisfied that a great deal could be done to prevent shock. Whenever possible, the preparation of a patient for a major operation should begin several days prior to the time fixed for the operation. If the patient is to go to the hospital it is a decided advantage to have the patient in the hospital for at least forty-eight hours prior to the operation. Few patients unaccustomed to hospital life rest quietly for the first few nights of their sojourn in the hospital, while in a few days they get used to their surroundings, nurses, etc.

Whether the operation is to be performed at home or in a hospital, the surgeon can usually profitably occupy several days in ascertaining the weak points in his patient's physique and in doing all in his power to improve the resistance of individual organs and of the organism as a whole. Many a post-operative crisis is, I am convinced, successfully passed by the careful preparation given prior to the operation. Notably the morale of the patient should be encouraged. The patient who goes to the operation, full of courage as to the result, confident of recovery, freedom from pain and restored usefulness, is probably in a better condition to make a post-operative fight. All of the organs

should be put in their best possible working order, but special attention should be given the kidneys, skin, and gastro-intestinal organs, which may be considered the great sewers of the body. It is my unvarying custom to flush out the kidneys and the bowels. The patients are encouraged to drink freely of water, and in order to secure this end I not infrequently prescribe a lithia tablet in a glass of water at prescribed intervals. Purgatives are given and intestinal antiseptics and fluid diet are prescribed with strychnia for several days prior to the operation. If necessary, sleep is secured by giving some simple hypnotic, preferably sulfonal, especially when preparing for an abdominal section; and after alvine discharges have been secured by saline purgatives, I give just before the operation a pint of saline solution by the rectum. Not infrequently I give mild purgative pills just before the anæsthetic is begun.

I am careful to see that the operating room is warmed and that warm dry clothing surround the patient. I do not like for the anæsthetizer to begin the anæsthetic until the preparation of the patient for the operation is well advanced. We often hear, without heeding it as we should, I fear, the truism "as well club a patient with a sand-bag as to shock him by too much or too prolonged anesthesia." Too profound or too prolonged anesthesia induces shock. It is not unreasonable to claim that too little may be equally a factor in producing shock, *i. e.*, not enough to eliminate consciousness of pain. In any event, we claim that the judicious exhibition of the anæsthetic is important in the matter of preventing shock. I know of no greater comfort to the operator than an intelligent anæsthetizer—one who knows when to push the anæsthetic and when to let up with it.

I seek to guard against shock during an operation by working as rapidly as is consistent with completeness, and especially completeness in limiting the loss of blood during the operation. I require to be at hand ready for immediate use during an operation, strychnia, digitalis, caffeine, nitro-glycerin, saline solution, etc.; and I am anxious to anticipate shock in the use of these remedies rather than to trust to them after shock has well set in. If the abdomen is open, hot saline is much depended upon in shock. I think it should be a part of the duty of the anæsthetizer to watch for shock and to apply appropriate remedies. Rapid surgery is not always complete surgery; and while I would not urge celerity at the expense of thoroughness, I regret a failure to grasp and

act upon emergencies promptly as they arise. Complete surgery limits primary and reactionary hæmorrhage and prevents shock. Complete surgery wards off septic infection and the most dangerous of all shock—that incident to rapid ptomain absorption.

No time should be lost in getting the patient back to bed after the operation, as each half hour consumed in operation and dressing of the patient adds to the degree and danger of shock. Dress dry and warm the patient, as quickly as possible. I usually order a pint of hot saline solution and an ounce of whiskey to be given by enema as soon as the patient is in bed. I consider it all-important to dry the patient by friction with dry towels or the hand. Hot water bags are useful but must be watched so as not to act as a hot pack or burn the patient. If reaction is not prompt, treatment is continued by administering saline solution under the skin, by the rectum, or by direct transfusion, if the case is urgent. I have not practiced it, but am inclined to think well of the practice of filling the abdomen with saline solution just before closing it. Strychnia, digitalis, caffeine, nitro-glycerin, atropin, and morphia are administered, at intervals, as indicated, and cold tea, and coffee may be given with advantage by the rectum. My experience impresses the conviction that patients treated along this line will, with few exceptions, recover from shock which is uncomplicated. I do not believe in the so-called prolonged shock, delayed shock, etc., in such cases; I think we have shock plus hæmorrhage or the ptomain shock incident to rapid sepsis, and in exceptional instances, fat embolism or venous thrombosis to contend with. In shock, hæmorrhage and sepsis, I recognize the trinity of dangers common to traumas and surgical interference; and their prevention secures against diminished local and septic resistance.

6 N. Fifth Street.

MALIGNANT DISEASE OF THE UTERUS.*

By LOUIS FRANK, M. D., Louisville, Ky.

The uterus is among the organs that are most frequently attacked by malignant processes—malignant diseases occurring here about as frequently as in any other part of the body. The frequency of malignant disease in this location, the fact that cancer most often occurs during the time of life when there are menstrual irregularities, the frequency of recur-

* Read before the Kentucky State Medical Society, at Maysville, Ky., May 12, 1898.

rences after so called radical operations, the fact that many of these patients are not seen until too late for operative procedures, with other features equally as important, make the subject one to which for a long time the gynecologist has given his most serious consideration.

Cancer occurs in this location most frequently between the ages of 35 to 40 and from 50 to 60, though it may be found in the very young, occurring at almost any age after the female reaches full womanhood. It is found in every grade of life, from the highest to the lowest, in nulliparous as well as in those women who have given birth to numerous children. In the latter, however, it occurs more frequently than in the former, being comparatively rare in the nulliparous. Likewise, and probably on this account, we find it less frequent in the wealthier classes, and even in the wealthier women who have borne children, because they are more able to observe the precautions which may do away with the factors acting sometimes as predisposing causes.

It is hardly necessary for me to go into the pathology or to describe the various forms of the disease. Suffice it to say that we recognize three different forms of cervical growths, viz.: the (1) *cauliflower or papillomatous*; (2) the *nodular or parenchymatous*; and (3) the *ulcerative or excavating* which is the *carcinoma mucosa colli* of some authors. Pozzi has also described a form beginning in the posterior junction of the vagina and the cervix, which he terms the *carcinoma luminare*.

Of primary importance is the early recognition of the disease. Therefore it is important that we should know the early symptoms and the clinical course. It is well also to bear in mind the structures which may be involved secondarily, as this indicates to a certain extent what we may expect at certain stages of the disease. Thus the bladder or rectum may become involved, giving rise to vesical and rectal symptoms; we may have nodules formed in the peritoneum. Of course these cases of extensive disease are all necessarily inoperable, and therefore necessarily fatal.

There is one complication which occurs much earlier than has ordinarily been supposed, and to it is due the fact that there are so few permanent cures reported after operations for malignant uterine disease. I refer to lymphatic involvement. It will be remembered that we have in the pelvis both superficial and deep lymphatics. These may early become the seat of carcinomatous infiltration, so that the disease will readily and rapidly re-

cur after the organ has been taken out. This involvement may be so slight that it is impossible to detect it by bimanual examination, just as in cancer of the breast we have the glands involved without exhibiting an appearance which would lead us to believe this to be the case.

The earlier symptoms of cancer are most important, and it is to these that the most attention should be paid. Among the first is a prolongation of the menstrual flow, or the occurrence of metrorrhagia. Menorrhagia may be very slight, and it is for this reason that so many cases are neglected during that period when the most could be done for them. If we will remember the symptoms attendant upon the menopause, if we will bear in mind the fact that malignant disease, as I have stated, usually occurs about this time, one will not wonder that women believe these things to be normal; and even, too, the physician who has possibly been consulted, lightly dismisses the case with the statement that this is due to the change of life, never examining the patient to ascertain whether there may be a local cause for the hæmorrhage. It is certainly a mistake to do this, and I would impress upon you that an examination is necessary in every woman suffering from menorrhagia or metrorrhagia during the climacteric. All cases are not due to cancer, but many are.

A most suspicious symptom is the occurrence of a leucorrhœa, which may be slightly odorous in character (between the menstrual epochs), and which may or may not be accompanied by pain. Odor to the discharge is a very valuable sign, though it may not occur until a time when the recognition of the cause would be of no value.

In the so-called parenchymatous or nodular cancer, pain may be the first and most prominent symptom. This is also true of cancer of the uterus. Pains, pricking, lancinating and cutting, radiating throughout the pelvis, down the hips and up through the abdomen, constitute a very valuable symptom. These pains may be so slight at first as hardly to create any suspicion or alarm; but when accompanied with hæmorrhage, or with an odorous discharge we may be positive as to what is going on. There may be at this time very little loss of flesh, or there may be none; the appetite may be slightly or not at all impaired; there may be no cachexia; and in fact, there may be nothing upon which to base the diagnosis except the occurrence of slight hæmorrhage with the revelation made by the examining finger and the microscope.

With loss of flesh, with cachexia or cancerous toxæmia, the disease has reached a point where radical treatment will not be, in all probability, of any value. Upon digital examination in those cases where the vagina and a portion of the cervix are involved, it is usually an easy matter to detect and determine the nature of the trouble. The most difficult cases of diagnosis, of course, are the early cases of cancer of the cervix and those cases where, without cervical disease, there is cancer of the body. We may think that our patient has only an endometritis, or she may give a history which may lead us to think she has had an abortion, incomplete; we curette her, the hemorrhage returns after a short time, and then first are we suspicious of the true nature of the trouble.

All cases of menorrhagia or of metrorrhagia, no matter how slight, no matter at what time in the life of the woman they may occur, even with the absence of any other symptom discoverable by vaginal palpation or from the history, should be an indication for microscopical examination of the scrapings from the uterus. It is well, also, in those cases where there may be only slight nodulation about the cervix, and in which doubt exists, to excise a portion and examine microscopically.

In one of the two cases upon which I have operated without recurrence, the diagnosis was made by the microscope. The microscope, however, does not always give entirely satisfactory results, as in the variety of cancer which has its origin in the glandular structure, the resemblance to the mucosa, and especially one which has been the seat of long-continued inflammation, is so striking as to render a positive opinion almost impossible. We should, therefore, remember that there is a variety of cancer which begins, as I believe, as an adenoma, and which might better be termed *malignant adenoma* of the uterus than cancer, that even the microscopist may not be able to say positively whether we have a malignant growth present. In these cases I should trust rather to the opinion of the clinician than to that of the microscopist. It may be at times, even with the microscopist, a difficult matter to differentiate between carcinoma of the body of the uterus and a fibroid tumor. Still, a careful weighing of the facts elicited by close questioning, taking into consideration every point in the clinical history, with the probabilities of malignancy from the microscopist's report, we should be able to arrive at a positive conclusion.

Having made the diagnosis, what is to be done? If there is any chance of removing the

diseased structures, a total extirpation should be undertaken. Even with involvement of the pelvic lymphatics, permanent cures may possibly occur by removal of the uterus with the lymphatics through the abdomen, as has been done by Clark of the Johns Hopkins Hospital. His work has shown us how early there may be involvement of the lymphatics, which, as I have said, is so often the cause of recurrence when all the disease has apparently been removed.

Where there is involvement of the vagina, if there is present the least fixation of the organ, if there is cachexia, nothing is to be gained by radical operation, and I do not believe we are justified in subjecting these patients to the dangers attendant upon an operation of this magnitude. Curettage will lessen the hemorrhage, and curettage with cauterization will certainly render the patients more comfortable, cause a cessation of the discharge and prolong life even more than extirpation of the organ. My experience in these cases has been that, after extirpation, which I have done in several instances, recurrence is rapid and the disease will run if anything a more rapid course than had I resorted to the other plan of treatment.

The great point in the treatment of cancer is its early recognition, and I think we should impress upon our patients, surgeons impress upon general practitioners, that every woman complaining of pelvic trouble of any kind whatsoever, any irregularity of the menses, any copiousness of the discharge, either at the menstrual period or at any other period, should be subjected to examination by a competent gynecologist. Women know too little about their generative organs, hardly appreciating the importance of grave and never slight symptoms. This in connection with their natural modesty often prevents the discovery of lesions, which having been made out in time, would have enabled us to have effected cures. I know of a number of cases, as do probably many of the gentlemen present, where women have had cancers existing for a year or eighteen months, with most copious bleeding, with a discharge, with pain, all of which has been attributed to the change of life. The climacteric is a normal process, and the occurrence of such symptoms as these are certainly abnormal. Our patients should be taught this. They should not be dismissed with a word, but should be carefully examined, and if any trouble is discovered, it should be at once removed.

TO SUMMARIZE:

1. Cancer may occur at any time after beginning of the menstrual life of the woman,

2. The early symptoms are oftentimes obscure.

3. The least irregularity during the climacteric should arouse our suspicions.

4. Suspicious cases should be subjected to microscopic examinations.

5. Early operation is the only hope for cure.

6. Extirpation after the disease is very evident, after appearance of cachexia, is harmful rather than beneficial. In these cases our efforts should be directed towards making the patient more comfortable.

7. Finally it is our duty to teach and insist upon women consulting the physician for any irregularities in the menstrual flow.

sac, enclosing the fetus, a little disturbed by handling and the fluids; notice the eyes, mouth, chin, prolongations for hands and feet. Immediately outside of the sac you will observe



the blood clot from the hemorrhage at the time of rupture. This is surrounded by lymph thrown out by nature to protect the peritoneal cavity, the outer part of which has become organized.

The patient is doing well, and I anticipate no trouble as to her recovery—it being now well into the fourth day since the operation.

2706 East Grace Street.

CASE OF TUBAL PREGNANCY—OPERATION—RECOVERY.*

By VIRGINIUS HARRISON, M. D., Richmond, Va.,

Lecturer on Minor Surgery, University College of Medicine, Richmond, Va., etc.

I desire to report a case to night in order to exhibit to you this very pretty specimen of tubal pregnancy before handling and fluids have destroyed its perfection.

On June 18, 1898, I was sent for to see Mrs. —, age 36, white. Personal history excellent. Had had three children—the youngest three years old. The object of my visit was to do something to stop her "sickness," which had been on her for about nine weeks. I brought out in the consultation that at the beginning of the attack she had suffered a great deal of pain in the region of the right ovary, which had lasted for several days; this was relieved by morphine. About a week later, she was seized by another similar attack, and suffered from nausea both during the attack and for a short time afterward.

I made a vaginal examination, which revealed a large mass in the right side of the cul-de-sac, which felt like a cystoma of the right ovary. I told her what I had found, and that it might be tubal pregnancy, and advised immediate operation. She decided in a day or two to have it done, and went to the Virginia Hospital, where, on June 25, 1898, I removed this specimen from the right side. On the left side, I found a large cyst of the ovary, which I also removed. This mass is the prettiest specimen of tubal pregnancy I have ever seen, and is complete in all its parts. You will notice the

Sanmetto in Genito-Urinary Diseases.

Drs. Isaac Saalfeldt, Chicago, and J. L. Smith, Durand, Mich., speak in the most exalted terms of the value of this remedy in cases of prostatic hypertrophy, cystitis, pre-senility, in that peculiar condition existing in anæmic and chlorotic girls just entering womanhood, and abnormal conditions generally of the reproductive organs in either sex, depending on a debilitated condition of the general system. But it is especially in cases of senile prostatitis that its value is most evident.

* Reported to Richmond Academy of Medicine and Surgery, at meeting held June 28, 1898.

HYDROPHOBIA: WITH REPORT OF A CASE.*

By GRAY G. HOLLADAY, M. D., Portsmouth, Va.

Hydrophobia, or rabies as it is better called, has from the earliest times been an affection regarded from two very different standpoints both by physicians and the laity—on the one hand regarded with fear and dread, and on the other with a feeling of doubt as to whether there was really any such disease, or whether it was simply a series of nervous phenomena, induced in those of a neurotic temperament, by the fear of having "hydrophobia."

To the latter class I must confess I had always belonged until this spring, and had often said that a case occurring in a child who knew nothing of the symptoms and signs of the trouble, and who had not been frightened into being nervous by the anxious solicitude of family and friends, would go a long way towards convincing me that there was such a specific disease as hydrophobia. Such a case it was my good or bad fortune to see this spring.

Definition: "A disease due to a specific animal poison which resides in the saliva of animals affected with it. It never originates spontaneously, and is communicable directly or indirectly, and usually by biting, from carnivorous or omnivorous animals, and especially dogs, to man. It is alone recognized by its physiological effects in man or animals. It induces pain and stiffness in the inoculated part, exalted sensitiveness and irritability, feverishness, mental anxiety, flitting pains, spasms of the throat on the sight of liquids, tremors, headache and delirium, vomiting, eructations and tympanites, great prostration and death. Its period of incubation varies from a few days to many months."

History: Probably few diseases have excited greater study or attention from the days of the ancients up to the present time than has hydrophobia. It was known to and written about by Cælius, Aurelianus and Galen. Homer is thought to have written about it. Aristotle wrote of it and said that it "was communicable to all animals except man."

Europe has to a large extent been the home of hydrophobia, and its history is best studied there.

There was an epidemic among wolves in Franconia in 1271. In this epidemic, contrary to their usual habits, they did not, as a rule, attack the sheep, but went after the shepherds

and often followed them to the towns and villages.

Canine madness was very prevalent in Spain in 1500.

It prevailed in Paris in 1604, was rife in London in 1760, and in Philadelphia in 1779.

In the early part of this century it was prevalent among foxes, notably in France and Germany.

Blane, the great English veterinary surgeon of his day, says that in 1806 rabies was so common in the vicinity of London that a day seldom passed without his being consulted on one or more cases, and sometimes he would see from three to five cases a day for weeks at a time.

In this country, it appeared early in this century, especially in Ohio, where it destroyed numbers of wolves, foxes and dogs, besides human beings.

Youatt, another great English veterinarian, cauterized over four hundred bites received from rabid animals without an accident. He cauterized bites on his own person four times, but committed suicide during what was believed to be the premonitory stage of rabies.

Of late years there have been no serious epidemics of rabies, though cases of it seem to be increasing, notably in Paris, the home of Pasteurism.

Causes: The nature of the poison of rabies is not known. N. Senn says that "at the present time we can safely assert, without fear of contradiction, that the essential cause is a specific virus which can only be reproduced within the living organism." He also expresses the opinion "that since clinically and pathologically the disease so closely resembles tetanus, its microbe probably possesses analogous pathogenic properties."

Experiments on animals show that the disease may be transmitted from mother to offspring through the medium of milk and placenta. The whole litter may contract the disease, or only one pup.

A woman nursing a babe of six months contracted rabies of which she died. Four rabbits were inoculated with her milk. All died within sixteen days. The baby was healthy four and one-half months later. This, it would seem, tends to show that the virus is not poisonous when taken into the alimentary canal.

In man this disease always occurs from contagion. In the lower animals it is said that it may occur from various causes, as influence of seasons—more common in February and May—sudden changes in temperature, want of

*Read before the Seaboard Medical Society of Virginia and North Carolina, at Virginia Beach, July 15, 1898.

water, unsatisfied sexual desire, far more common in dogs than in bitches. In one hundred and forty-one canine cases only fifteen were in bitches. Dogs of a pure breed rarely suffer from it, and it is rare among castrated dogs.

It occurs at all ages; infants at the breast and a man at seventy-three are extremes. It occurs in both sexes, all countries and climates, and is more common in the North than in the South.

The nervous system is the part chiefly affected, although the poison is found in the secretions, as well as in the spinal-cord and in the brain.

The part bitten by the rabid animal bears a direct ratio to the number of cases. Those bitten on the face or hands are more liable to the disease than when bitten elsewhere. This seems to be because the teeth in passing through the clothes are robbed to some extent of their poisonous saliva, though it seems to me that the greater vascularity of these parts may, perhaps, partly account for it.

A scratch from the paw of a rabid animal may cause the disease.

Period of incubation: This has been variously stated as being from a few days to eighteen years. There seems to be no evidence to bear out the statement of eighteen years. The limit is probably under two years, and the large majority of cases occur within two months.

Frequency: A very small percentage of persons bitten by rabid animals suffer from rabies. The percentage is variously stated as being from five to fifty per cent.; the truth, however, as usual, lies apparently about half way.

Duration of the disease: In seventy-two cases analyzed by Drs. Blatchford and Spoor, the average duration was three days. In one hundred and twenty cases by the late J. Lewis Smith, sixty-five died in one to two days; probably the duration is usually between one and seven days.

Symptoms: 1st. Premonitory Stage.—There is usually some irritation about the site of the bite—radiating pains, numbness, or a sense of tingling if in the legs, pains radiate to the groins; perhaps the glands enlarge and become inflamed; a chain of lymphatics may be seen; the cicatrix may itch and burn, become sore and hot, may become very rigid and stand out prominently. The patient becomes depressed and has headache, and suffers from loss of appetite. There is a marked feeling of impending danger. He is very excitable, crying or getting very angry on small provocation; noises and lights are very disagreeable to him, and are complained of. Patient may have de-

lusions. Familiar objects when seen may not be recognized, or may be taken for other things, as in the case of the Duke of Richmond. In his case the symptoms developed between six and seven weeks after being bitten by a tame fox, and manifested themselves by his thinking that some poplar trees opposite his window were men looking in and bowing to him.

The temperature and pulse are usually increased.

2nd. Furious Stage.—In this stage the temperature may be quite high or normal; usually there is some temperature. The patient is markedly hyperæsthetic, and a slight touch or noise may cause a reflex spasm. There are particularly to be noted spasms of the muscles of the mouth and larynx. Spasms affecting these muscles are exceedingly painful, and cause, at times, an excessive degree of dyspnoea. Any attempts to swallow, particularly liquids, cause these spasms of the muscles of the larynx, and even the sight of water or the sound of falling water will cause them.

In the interval between the attacks the mind is unclouded and the patient calm; but at times during the attacks, the patient becomes maniacal, and then attempts to scratch or bite those who come near him, although this latter is rare, for usually the patient, even during an attack, will show a most touching solicitude for fear a loved one will be injured.

It is often stated that patients suffering from hydrophobia "foam at the mouth and bark like a dog." This is a mistake. The so-called foam is merely the saliva which the patient will not swallow, and which collects in the mouth and then runs out. The so-called bark is a catch in the breath.

3rd. Paralytic Stage.—In this stage, the patient becomes weak, and the general convulsions, which so distressed the patient in the former stage, may be no longer looked for. The patient sinks gradually into a state of unconsciousness, death occurring from syncope.

Morbid Anatomy.—The lesions are confined to the cerebro spinal system—the virus being found in cord, brain, and some of the secretions, notably the saliva. There are no characteristic appearances post-mortem.

Diagnosis.—There are only a very few diseases that hydrophobia has to be diagnosed from. As might be expected, the first one is *hysteria*. Usually, in hysteria, the symptoms come on at once without any period of incubation. If patient is spoken to very sharply, and even if told to drink, he will obey. In the pseudo-form, the temperature is not elevated.

Some writers lean to the opinion that rabies is a modified form of *tetanus*. In tetanus, the spasms are tonic, while in hydrophobia they are clonic. In tetanus, the muscles of the jaws are chiefly affected; in hydrophobia, those of the throat.

Prognosis.—"There is no authentic instance on record of a case of hydrophobia recovering."

Pseudo-hydrophobia is frequently if not usually cured.

Treatment.—The most important treatment is that which is skillfully and judiciously used to prevent rather than cure hydrophobia.

The experience of about three thousand years proves that when hydrophobia has once set in, no treatment, no matter how applied, has ever cured a case. There is scarcely a remedy known in medicine that has not been tried, but always with the same result—*death*.

Celsus recommended the application of the cupping glass or the employment of an actual cautery. Local treatment is now recognized as being the most important. Free excision of the bitten part, the application of an actual cautery, and amputation of bitten limbs, have all been employed. Prolonged immersion in cold water has been practiced from the earliest times, and during the present generation persons bitten by rabid dogs were carried to and bathed in the sea.

Blane and Youatt both regarded nitrate of silver as a specific; and to this day this is the most usually resorted to local treatment—thorough cauterization of the wound with nitrate of silver.

Internally, a very long list of drugs have been employed—aloes, chalk, alum, Armenian bole, elecampane root, aniseed oil, musk, cinabar, arsenic, mercury, etc., etc. Large doses of bromide of potassium, chloral hydrate with the narcotics, with inhalations of chloroform, are the only drugs that any benefit may be expected from. The patient should be kept perfectly quiet and in a darkened room. For the most distressing dyspnoea, tracheotomy has been performed, but without the slightest benefit.

Treatment is preventive—not curative.—It consists of inoculating the patients with a progressively stronger virus obtained from the spinal cords of rabid dogs.

Discussion as to the value of this method is still going on. According to the figures published by the Pasteur Institute, the mortality among persons bitten by animals known to have been rabid and treated by Pasteur's method, is 0.60 per cent.

CASE.—The case which I saw was as follows:

On January 29th, 1893, in Portsmouth, Va., a dog was noticed on the street acting very "queerly." He would attack and bite other dogs, bite inanimate objects, and attacked several persons, biting two—one on the hand, and one on the face. The latter was the case I saw. Of the dogs bitten there were several that went mad to all appearances, but, unfortunately, none were kept alive to be observed; no inoculations were made from their cords.

Willie E., the boy bitten on the face, was about eight years of age, and strong and well. Family history, negative.

Personal History.—Previously healthy. While walking down the street, was attacked by a dog which he had not noticed. He was bitten on the left side of the face—the wound extending from the nose nearly to the red margin of the lip, and went clear through the upper lip.

Dr. V. G. Culpepper was sent for and thoroughly cauterized the wound with silver nitrate and then sewed it up. He kept the boy under observation for some ten days, and then discharged him apparently perfectly well.

From this time until about the 1st of March everything went on nicely, and the boy apparently forgot that he had been bitten. On or about March 1st, he returned to Dr. Culpepper to ask him about the cicatrix, which had undergone a change in appearance and itched some. His mother, he said, thought there might be "matter" in it.

On March 13, while in Sunday-school, some one happened to touch his face in the neighborhood of the cicatrix, when he burst out crying, saying his "whole face hurt him." On March 15, at school, he was so nervous, irritable, and excitable, that his teacher sent him home as being sick. On getting home he went to bed, complaining of headache, and was afraid "something was after" him.

On the 16th, Dr. Culpepper saw him, and found the patient very nervous and excitable, fearing greatly that he was to be cut open. Temperature was elevated, pulse quickened, had no appetite, and there was a decided disinclination to swallow, saying that everything choked him.

On the 17th, when I first saw the case, in consultation with Dr. Culpepper, his temperature was 103° F.; his pulse 180. The surface of his body was hyperæsthetic, and he was very markedly excited. He could not stand a sudden jar, touch, or loud sound; was constipated, and had eaten nothing for two days. His eyes were somewhat injected. His one cry was that we would cut him open or give him chloroform.

The slightest touch would cause him to spring up in bed, and then bury his head in his nurse's lap or the bed clothes. At other times, without any apparent reason, he would spring up as though frightened nearly out of his wits, jump over to the corner, and lie there glaring around at those in the room. I asked him to drink some water, and he said that he would, but he did not think he could swallow it unless we pushed it down with a stick, as everything he took stuck in his throat. He took the glass and tried to drink, and instantly a very severe laryngeal spasm ensued.

He continued to grow worse—all symptoms becoming intensified—until the very sight or sound of water would cause a spasm, and gradually general convulsions ensued. He grew weaker and weaker and died on the 19th, after agonizing suffering. Our only treatment was narcotics, absolute quiet, and a darkened room.

Among the features of this case, I think the following are perhaps the most worthy of note. From the time the boy was bitten until he died he never expressed or seemed to have any fear of any bad results. During the attack, while seemingly at all times greatly alarmed and frightened, he never seemed to think that his sickness was caused by the dog bite.

The other case referred to as having been bitten by the same dog, I am told by Dr. McMurrin, was very badly bitten on the hands—having no less than eight tooth marks on one hand. Her wounds were thoroughly cauterized with pure nitric acid and then kept wet with a warm solution of bichloride of mercury (1-3000).

On February 2nd, she went to the Pasteur Institute in New York, where she remained for fifteen days. While there, she received two injections a day for the first four days, then one a day for the next seven days, then again two a day for the last four days.

Before she went to New York she was very nervous and apprehensive. Since she returned she has been perfectly well, and has never shown any signs of fear except just after attending the funeral of the poor boy whom she says was bitten by the same dog.

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Proceedings of Societies, etc.

MEDICAL EXAMINING BOARD OF VIRGINIA.

The Virginia Board of Medical Examiners met in the office of the clerk of the House of Delegates, Capitol building (Col. Bigger's office), Richmond, Va., at 9 P. M. Tuesday, June 21, 1898. *Present:* Drs. R. W. Martin, President; R. S. Martin, Secretary; Robinson, Foster, Nash, Warriner, Lile, Randolph, Rodgers, Brady, Budd; Homeopathic members, Drs. E. C. Williams and M. R. Allen.

Minutes of the last meeting were read and adopted.

The President, Dr. R. W. Martin, made a report of some of the work done by the Board during the last four years and then declared the old board dissolved, with the statement that reorganization was then in order.

The following officers were unanimously elected for the next four years: Dr. R. W. Martin, Lynchburg, Va., *President*; Dr. W. L. Robinson, Danville, Va., *Vice-President*; Dr. R. S. Martin, *Secretary and Treasurer*. *Executive Committee*, Drs. R. M. Slaughter, of Alexandria; H. M. Nash, Norfolk, and E. T. Brady, Abingdon. *Legislative Committee*, Drs. Budd, Warriner and Allen.

Dr. Nash moved that the section coming last at any regular examination be called first on the succeeding examination, and so on in rotation. Adopted.

Dr. Robinson moved that the arrangement of the sections be left with the President. Adopted.

Dr. Robinson introduced the following resolution, which was adopted:

Resolved, That any applicant for temporary permit to practice be examined orally by the member of the Examining Board from his district, and no such examination be made within sixty days before the meeting of the Board.

Dr. Nash offered the following:

Resolved, That hereafter this board will meet in session for examination of applicants for the practice of medicine on the *third Tuesday of July and third Tuesday of January of each year succeeding the present year*.

Dr. Robinson moved the suspension of the law to allow Dr. Nash's resolution to pass. Adopted.

Questions on Anatomy, Chemistry, Hygiene and Medical Jurisprudence, Physiology, Histology, Pathology and Bacteriology, Therapeutics and Materia Medica, Practice of Medicine and Surgery read and adopted; also the ques-

tions on Therapeutics and Materia Medica of the Homeopathic Section were read by Dr. E. C. Williams and adopted.

Board adjourned.

Board met June 22, 9 P. M., Col. Bigger's office. *Present*: Drs. R. W. Martin, President; R. S. Martin, Secretary and Treasurer; Brady, Randolph, Williams, Rogers, Allen, Warriner, Nash, Foster, Robinson and Slaughter. Questions on Gynecology and Obstetrics read and adopted.

Dr. H. M. Nash moved the Secretary's salary be increased to \$150 per year. Adopted.

Secretary reported 130 applicants under examination before the Board.

Board adjourned.

R. W. MARTIN, *President*, Lynchburg, Va.

R. S. MARTIN, *Secretary*, Stuart, Va.

The following are the *Questions adopted for Examination of Applicants in the nine Sections*—no examination by one section being allowed more time than three hours:

JURISPRUDENCE AND TOXICOLOGY.

Dr. Robert Randolph, Boyce, Va., Examiner.

Answer any of, but only four of the following.

Ques. I. (a) Define and classify poisons.

(b) Give two examples in each class.

(c) Tell how each class effects the economy.

Ques. II. Define medico-legally:—

(a) Illusion.

(b) Delusion.

(c) Hallucination.

(d) Lucid interval.

Ques. III. Give immediate and remote causes of death from wounds, and give examples.

Ques. IV. Give positive early signs of death and define rigor mortis.

Ques. V. Give medico-legal definition of a wound, and how would you differentiate an ante-mortem from a post-mortem wound?

Ques. VI. Define—

(a) Amentia or Idiocy.

(b) Dementia.

(c) Mania.

(d) Give special characteristics of each.

HYGIENE.

Dr. Samuel Lile, Lynchburg, Va., Examiner.

Answer only four of the following.

Ques. I. (a) Name constituents of atmospheric air. Give relative proportions of the two most important.

(b) In 100 parts of expired air give proportions of O, N. and CO₂.

(c) To what extent is CO₂ present in atmospheric air, and what amount is deleterious?

Ques. II. Give brief account of the usual sources of water supply of small towns and villages, and the dangers attending the use of water from each source.

Ques. III. Give detailed account of the precautions that should be taken by doctor and nurse to prevent the spread of scarlet fever when a case occurs in a private family.

Ques. IV. Name the most important diseases of animals that are communicable to man.

Ques. V. Give brief account of the most fatal diseases of camp life in time of war, and means of preventing or limiting them.

ANATOMY.

Dr. E. T. Brady, Abingdon, Va.

Answer any six of the questions. Number each question. Sign by your number only.

Ques. I. (a) How is the brain supported within the cranium?

(b) What bones form the cranium vault?

Ques. II. Describe the kidneys, (no minute anatomy desired. Simply state functions, size, shape, and relation both as to internal organs and external anatomical points).

Ques. III. (a) What and where is the larynx?

(b) Give function, shape and ligamentous attachments of epiglottis.

Ques. IV. (a) Of what vessels is the portal venous system composed?

(b) Where do they empty?

(c) What are the anatomical peculiarities of its branches?

Ques. V. Name the muscles of the shoulder and arm?

Ques. VI. (a) How many pairs of spinal nerves are there?

(b) Whence do they arise?

(c) How do they make their exit?

(d) What is their function?

Ques. VII. (a) State the relations of femoral artery and vein to one another?

(b) Name principal branches of the artery from above downwards.

(c) What imaginary line indicates the course of the artery?

HISTOLOGY, PATHOLOGY AND BACTERIOLOGY.

Dr. R. M. Slaughter, Theological Seminary, Va.
Examiner.

Answer only six questions.

Ques. I. (a) How many and what are the varieties of nerve fibre?

(b) Of which variety are the cerebro-spinal nerves composed?

(c) Which of the cranial nerves is an exception to this rule?

(d) Name the varieties of muscular tissue.

(e) Give the respective divisions of the central nervous system from which are derived the nerve supply of the different varieties of muscular tissue.

Ques. II. Define the following (bacteriological) terms: *(a)* Obligate parasite, *(b)* Anærobe, *(c)* Facultative aerobe, *(d)* Name some of the important obligate pyogenic bacteria, and *(e)* some facultative pyogenic bacteria.

Ques. III. Give Koch's laws in regard to the establishment of the bacterial cause of disease.

Ques. IV. State the difference between fatty infiltration and fatty metamorphosis (degeneration).

Ques. V. (a) Give the pathological characteristics of pyæmia. *(b)* Explain the respective origins of the solid and liquid portions of pus.

Ques. VI. Give the cause and characteristic lesions of so-called tropical dysentery.

Ques. VII. (a) Give the blastodermic origin, physiological prototype, classification, and nature (benign or malignant) of epitheliomata, *(b)* Sarcomata, *(c)* Adenomatata, *(d)* Angeliomata.

Ques. VIII. (a) What is polyæmia? *(b)* In what condition does this disease often occur? *(c)* What is the physical condition of the liver and spleen in lukæmia? *(d)* What are the changes in the relative proportions of the white and red blood cells in this disease?

PHYSIOLOGY.

Dr. R. S. Martin, Stuart, Va., Examiner.

Answer *any six*, and *only six*, of the questions.

Ques. I. (a) Name the conditions normal or pathological which retard, suspend, or prevent the coagulation of the blood.

(b) What is diapedesis?

Ques. II. (a) Describe urea, including composition, average quantity excreted daily, causes of variations in quantity.

(b) Give reaction and specific gravity of urine in health.

(c) Give function of the cerebellum.

Ques. III. (a) State how food is acted upon from the time it enters the mouth until it reaches the large intestines.

(b) What are the functions of the liver?

Ques. IV. (a) Give the difference between human milk and cow's milk.

(b) How many groups of food are necessary for the maintenance of health in man? Name them.

Ques. V. (a) What is phagocytosis?

(b) Define a nerve, a plexus, a commissure, and decussation.

(c) What is choluria?

Ques. VI. (a) Name special centres in the spinal cord.

(b) How are fat cells developed? Name some parts of the body where it is not present.

Ques. VII. (a) Give the number and arrangement of the temporary or milk teeth.

(b) Give the mechanism of respiration.

Ques. VIII. (a) Give the function of the great sympathetic nerve.

(b) What are the direct sources of body heat?

CHEMISTRY.

Dr. W. L. Robinson, Danville, Va., Examiner.

Answer *only six* of these questions.

Ques. I. Give the chlorine or halogen group, and state how each is obtained.

Ques. II. Give method of obtaining pure oxygen gas for medical purposes.

Ques. III. Give scientific and commercial names for CaSO_4 (Hg_2Cl_2 2 Na, 2, SO_4) K NO 3.

Ques. IV. (a) Give chemical symbols of calomel and corrosive sublimate.

(b) State what agencies will convert one into the other.

(c) Name some of the chemical antidotes for corrosive sublimate.

Ques. V. (a) How are ethers formed? Name one, giving its formula.

(b) Give formula and preparation of nitrous ether.

Ques. VI. (a) How do hydro-carbons occur in nature?

(b) What is "fire-damp," and how formed?

Ques. VII. How is nitrogen monoxide obtained, and what are its properties?

Ques. VIII. What agencies produce cloudy urine and give reliable test for each.

PRACTICE OF MEDICINE.

Dr. R. W. Martin, Lynchburg, Va., Examiner.

Dr. E. C. Williams, Homœopathic Examiner.

Answer questions 1, 4, 5, and 7, and *any two* of the remaining four.

Ques. I. Give the duration of the period of incubation and invasion of (1) measles, (2) scarlet fever, (3) small-pox, (4) diphtheria.

Ques. II. Give the etiology of simple acute adenitis and describe the changes that take place in the glands.

Ques. III. Give the symptoms and progress of catarrhal spasm of the larynx.

Ques. IV. Give the peculiar symptoms of typhoid fever in a child under ten years of age.

Ques. V. Differentiate pleuritis with effusion from croupous pneumonia.

Ques. VI. Give the pathological anatomy of hydrothorax.

Ques. VII. Define motor and sensory aphasia, and locate the lesion producing each.

Ques. VIII. Give the pathology of cerebral softening.

MATERIA MEDICA.

Dr. L. S. Foster, Mathews C. H., Va., Examiner.

Dr. E. C. Williams, Homœopathic Examiner.
Answer four questions only.

Ques. I. (a) Give dose and incompatibles of argenti nitras.

(b) Give origin and dose of santolin, salol, strophanthus and eucalyptol.

Ques. II. (a) Name official preparations of valerian and cannabis Indica with dose of each.

(b) Name three diffusible stimulants; three cardiac stimulants, and three spinal stimulants.

Ques. III. (a) Define the terms sudorifics, emmenagogues, oxytocics, rubefaciants and escharotics, and name one of each class.

(b) What medicines are included in the class of mydriatic anodynes?

Ques. IV. (a) Give the official, preparations with dose of asafoetida, bismuth, squill, stramonium, and hyoscyamus.

(b) Name the sources and dose of hydrocyanic acid.

Ques. V. (a) Give source, dose and official preparations of digitalis.

(b) Name the best preparation for diuretic purposes.

(c) Give source, dose and official preparations of podophyllin?

(d) Name the salts of strontium.

THERAPEUTICS.

Dr. J. E. Warriner, Brook Hill, Va., Examiner.

Dr. E. C. Williams, Homœopathic Examiner.

QUESTIONS FOR THE REGULAR PROFESSION.

Answer only four of these questions.

Ques. I. (a) What is the approximate relationship between the strength of tinctures, extracts, fluid extracts, and powdered drugs—taking the extracts as the standard?

(b) What therapeutic indications are met by the application of poultices, and what is accomplished by their use?

(c) What are the indications for using cold applications, and what are the effects of such applications in febrile disturbances?

(d) In which stages of inflammation would you use heat, and in which cold, and why?

Ques. II. (a) At what time in regard to rising, retiring and meals would you administer the following remedies:

1. Agents to affect directly the stomach and intestines?

2. Systemic remedies, as iron and nuxvomica?

3. Pepsin and pancreatin?

(b) 4. Narcotics, sedatives and hypnotics?

5. Bitter tonics to stimulate appetite?

6. Alkalies and acids for hyperacidity?

(c) What are the equivalents in domestic measures of minim, drachm, half-ounce, and two drachms?

(d) Give the indications for administration of agents by the rectum.

Ques. III. (a) Give dose and therapy of subchloride of mercury.

(b) Give dose and therapy of chloride of ammonium.

(c) Give dose and therapy of elaterium.

(d) Give the therapy of codeine and its advantages over morphine.

Ques. IV. (a) What are narcotics? Name six most important.

(b) Mention some diseases in which ether as an anæsthetic is contraindicated.

(c) What are the two divisions of anthelmintics? Name two agents used to kill the oxyuris vermicularis, ascaris lumbricoides, and tænia.

(d) Give directions for the administration of a tæniacide.

Ques. V. (a) In using arsenic locally as an escharotic, would you use a weak solution or paste, and why?

(b) Name four of the best diuretics and give their doses.

(c) Name five principal styptics useful in capillary hæmorrhage.

- (d) Give a good rule for the computation of doses for children and infants.

SURGERY.

Dr. S. W. Budd, Petersburg, Va., Examiner.
Dr. M. R. Allen, Norfolk, Homœopath.

Answer only six of these questions.

- Ques. I. Gangrene.*—(a) Give the non traumatic causes.
(b) Name two typical forms of gangrene, and give the causes and general appearance of each.
(c) Treatment of gangrene.
- Ques. II. Urinary Calculi.*—(a) Mention the varieties forming in acid urine.
(b) The varieties forming in alkaline urine.
(c) What conditions may prevent the detection of stone by the sound?
(d) Give the prophylaxis of urinary calculus.
(e) Give the preparatory treatment of patient before operation. (Omit the antiseptic details.)
- Ques. III. Describe.*—(a) The incision for lateral lithotomy.
(b) What tissues are divided by the incision.
(c) What are you to avoid wounding.
- Ques. IV. Tubercular Disease of the Elbow.*—
(a) Give its origin (or primary focus) and description.
(b) Its symptoms, and
(c) Treatment.
- Ques. V.* (1) Give the varieties and treatment of burns.
(2) Give causes and treatment of—
(a) Ischio rectal abscess.
(b) Bubo.
- Ques. VI.* (1) *Purulent Conjunctivitis.*—(a) Diagnosis.
(b) Treatment.
(2) *Iritis.*—(a) Causes.
(b) Diagnostic points.
(c) Treatment.
- Ques. VII. Describe.*—1. Dupuytren's contraction (contraction of the palmar fascia) and operation for.
2. Pirogoff's amputation.
Omit any one of the three last questions.

OBSTETRICS AND GYNÆCOLOGY

Dr. H. M. Nash, Norfolk, Dr. C. W. Rogers, Staunton, Examiners.

Dr. M. R. Allen, Norfolk, Homœopath.

Answer only four of each set of these questions.

QUESTIONS IN OBSTETRICS.

- Ques. I.*—Mention the most frequent affections complicating pregnancy, referring to the prophylaxis of each?
- Ques. II.*—What are normal and abnormal, natural and unnatural presentations; and give the diagnosis of cephalic, pelvic and transverse presentations?
- Ques. III.*—Describe the method of diagnosis in obstetric cases by abdominal palpation, giving the reasons for a preference for this method?
- Ques. IV.*—What difficulties in labor may be avoided and remedied by an early diagnosis?
- Ques. V.*—Give the treatment of the 3rd stage of labor?

QUESTIONS IN GYNÆCOLOGY.

- Ques. I.*—Enumerate the varieties of dysmenorrhea, describing briefly the pathology of each variety?
- Ques. II.*—Describe the bimanual examination of the female for pelvic lesions?
- Ques. III.*—Mention the physiological changes that occur at the menopause and the pathological conditions most likely to develop?
- Ques. IV.*—Describe a vaginal hysterectomy, both by clamps and by ligatures?
- Ques. V.*—Give a resumé of the after treatment of abdominal sections?

[We regret very much to have to defer publication of the list of successful applicants, etc. We have waited until the day for issue of this number of the *Semi-Monthly*, hoping the copy would be in hand in time. But it is a heavy piece of work for each Examiner, who is also a practitioner, to examine critically 600 or 700 pages of manuscript—much of it in miserable penmanship, bad grammar and worse spelling—and yet grade each question attempted to be answered. Rather than further delay this issue, we will publish the Questions in this number, and follow with the report giving the results of the examinations in our issue of August 12th.]

Epilepsy.

Clinical experience of hundreds of physicians has proven that "Neurosine" (Dios) is almost a specific in Epilepsy. Dose, two teaspoonfuls three times a day, modified as the case warrants. Reliable results cannot be expected if substitution is allowed.

RICHMOND ACADEMY OF MEDICINE AND SURGERY.

Meeting held July 12, 1898. Dr. M. D. Hoge, Jr., President, in the chair. Dr. Mark W. Peyer, Secretary and Reporter.

Dr. George Ben. Johnston reported some abdominal cases, and made some remarks on *Some Abdominal Cases*. (See page 215).

Casts of Palms of Hands and Soles of Feet Due to Quinia Idiosyncrasy; or Was it an Irregular Form of Scarlatina? Idiosyncrasies as to Morphine, Potassium Iodide, Camphor, Iodoform, Poison Oak, etc.

Dr. Jacob Michaux exhibited casts of the palms of the hands and soles of the feet of a young man, aged nineteen years. The patient had a fever, 102°, the nature of which was indefinite. The patient was of spare build. There were no eruptions nor tongue symptoms. He was not seen until three days after the inception of the fever. A dose of three grains of quinine was given, and three hours after there was almost a convulsion, though consciousness was retained. In four or five hours a rash appeared. Dr. Michaux said he would have been uncertain as to the influence of the quinine and its dose producing the exfoliation were it not for the information derived from the mother, an intelligent woman, that it had occurred before, but she had neglected to mention it. He had heard of but one other case. The casts of his came off in a week, and the whole epidermis of the body was shed in particles. His explanation of the phenomenon was idiosyncrasy, and a rather marked case was that of Dr. Bolton, who, whenever he uncorked a bottle of morphine, although holding it out at arm's length, would have an eruption to appear all over the body. The first time the effect was produced was when weighing out a half grain; a sun-burned appearance was noticed around the eyes. The cause was not suspected for some time.

Dr. J. N. Upshur said the history of Dr. Michaux's case was more like scarlet fever than anything else. He did not think the mother's information amounted to anything, for that kind derived from relatives of patients was unreliable. There was nothing in the physiological action of quinine to explain the condition. The period of incubation was that of scarlet fever, and the explanation thus was more natural than by quinine.

Dr. Michaux asked leave to state that he had again given a like dose of quinine with a like result. The information obtained from the mother was given her by an intelligent physi-

cian who had attended the patient in time past.

Dr. Geo. Ben. Johnston believed Dr. Michaux's explanation of the case the correct one, viz., idiosyncrasy. He had never seen such a profound effect from quinine, but had seen a severe dermatitis. The following confirmed his belief. In the case of an old lady, a five grain dose of iodide of potassium produced alarming symptoms. Two and a half grains produced the same, and likewise did continuous reductions of the dose even until one tenth of a grain was reached, when there were the same symptoms, with the same degree of violence. Dr. J. B. McCaw will faint when he smells camphor. Dr. Bryan brought a case to him for operation, and he was about to pack with iodoform gauze, when the doctor asked for time to leave the room, saying if he remained until the container was opened he would have nettle rash before he could reach the bottom of the stairs. Dr. Morris, of this city, cannot pass within seven feet of growing poison-oak without having its characteristic effect. All these being so, why could not quinine produce the effect as shown by Dr. Michaux? He was prepared to believe it true.

Teeth in Infant Two Weeks Old.

Dr. W. S. Beazley exhibited three teeth extracted from the mouth of an infant—the first when it was thirteen days old, the second on the fifteenth day, and the third on its nineteenth day. He saw the infant on the third day after birth, and found the left cheek and eye and the nose inflamed—the eye and nose also discharging. On examining the jaw later, he saw an opening in the gum from which pus was exuding, and also a loose tooth, which he pulled. Two days later a molar was seen, which was pulled, and again in four days a second molar, which met the same fate. All the teeth came from the left upper jaw. He was told there was no evidence of teeth at birth.

SEABOARD MEDICAL ASSOCIATION.

The Second Semi-Annual Session of this Association, composed especially of regular doctors in Eastern Virginia and North Carolina, was held at Virginia Beach, Va., July 14th and 15th. A number of visitors were in attendance—several of the profession of Richmond and other cities. None of these was more cordially received than Dr. Charles J. O'Hagan, of Greenville, N. C., whose attendance on any such occasion is an appreciated compliment.

The President, Dr. Junius F. Lynch, of Norfolk, presided so well during the session, and

looked so well after the interests of the members and their guests, that the firms who exhibited their manufactures during the meeting presented him with a handsome case of instruments. The presentation speech was made by Dr. Glisson, who had charge of the exhibits of Messrs. Parke, Davis & Co. Dr. Lynch was happy in his remarks of acceptance.

The program called for twenty papers and discussions during the six meetings—three each day. Larger organizations may well study the methods adopted by this district society to learn how to economize time and interest all.

As we hope to have opportunity to let our readers know more of this Association, and as we are crowded by time, we will take space only to note that all the business of the Association was transacted during the last night's session.

The Election of Officers resulted as follows:

President—Dr. E. F. Corbell, Sunbury, N. C.

Vice-Presidents—Drs. Chas. T. Parrish, Portsmouth, Va., and T. N. White, Belvide, N. C.

Secretary—Dr. Jno. C. Rodman, Washington, N. C.

Place of Next Regular Semi-Annual Meeting—Wilson, N. C.

Time of Session—January, 1899.

Dr. W. T. Sutton, of Norfolk, Va., was elected an honorary member.

From every correspondent in attendance, we learn that the entertainments were enjoyable, and the provisions for the comfort of the guests were abundant.

Book Notices.

Conservative Gynecology and Electro-Therapeutics. *A Practical Treatise on the Diseases of Women and Their Treatment by Electricity. Third Edition, Revised, Rewritten and Greatly Enlarged.* By G. BETTON MASSEY, M. D., Physician to the Gynecic Department of Howard Hospital, Philadelphia; Late Electro-Therapeutist to the Infirmary for Nervous Diseases, Philadelphia; Fellow and ex-President of the American Electro-Therapeutic Association, etc. *Illustrated with Twelve Full-Page Original Chromo-lithographic Plates in Twelve Colors, Numerous Full-Page Original Half-tone Plates of Photographs taken from Nature, and many other Engravings in the Text.* Royal Octavo. 400 Pages. Extra Cloth, Beveled Edges, \$3.50 net. The F. A. Davis Co., Publishers, Philadelphia, New York City, and Chicago, Ill.

Our author is thoroughly conversant with the medical and surgical uses of electricity. He has time and again published his methods and results. There has not come to our knowledge any statement of doubts as to the correctness of his reports. His records show innumerable cures and good after-effects. Beard & Rockwell, Apostoli, and numerous others who know the uses of, and how to apply electricity for therapeutic purposes, attest the truth of Dr. Massey's deductions, and yet there are doctors of eminence—surgeons especially—who poo-poo the idea that electricity can be of service in organic changes of structure, particularly in pelvic diseases. They want to cut and slash, and if the patient, perchance, gets well of troubles that all electro-therapeutists tell us are curable by the proper selection of current and application of electricity, they are heralded as triumphs of surgery. The electro-therapist is thereupon upbraided for not turning all of his patients over to the surgeon—oftentimes he is ridiculed. Of course, there is need for surgery in many cases; but, as Haultain says, "In a case of one who is near and dear, who suffers from chronic invalidism as the result of a uterine fibromyoma, I ask whether many of us would subject her to an 8 per cent. risk of life, with a further 15 per cent. risk of failure by removal of the ovaries, or the terrible mutilation of hysterectomy before at least trying all conservative means at our disposal. Personally, I unhesitatingly would decline, and thus would give electricity, as the most efficient conservative treatment, an honest trial. No harm is done; no valuable time is lost." "If it do fail, *which, in my experience, is exceptional*, then we can proceed to more radical measures."

Tongaline and Quinia for Catarrhal Fever.

Dr. Frank A. Barber, of Chicago, was called to a gentleman who had catarrhal fever following a severe cold; pulse 120, temperature 102½; skin hot and dry, splitting headache and pains all over body. The mucous nasal tract, throat and bronchial tubes were inflamed, and his whole system was thoroughly congested. He took a hot footbath, a hot lemonade, and went to bed. Ordered six Tongaline and Quinine tablets, one every half hour, to be taken with hot water. An hour after going to bed, he began perspiring freely, felt drowsy, and soon fell asleep, and awoke with pulse and temperature normal, skin moist, no pain, and decidedly improved. A mild cathartic was given, and by the next day he was well. Since then he has frequently used Tongaline and quinia Tablets in such cases with marked success.

The book before us is a most excellent contribution to medical literature. It is practically a new work—as its title indicates. It deals with every phase of electro-therapy so far as diseases of women are concerned. In fact, it is a valuable addition to any library on gynecology. Its plate illustrations are drawn from cases, and the coloring is well done to represent the conditions noted. The only reasons we can conceive why electro-therapy is not more popular with the profession, are because the outfits are very expensive, and because of the time required in making applications. But let him who is able equip himself for the work, and then let his specialty be known to the profession, and it will not be long before electro-therapy will become popularly resorted to because of its magnificent results, as recorded, in part, in the book under notice.

Text-Book of the Practice of Medicine. By JAMES M. ANDERS, M. D., Ph. D., LL. D., Professor of the Practice of Medicine and of Clinical Medicine, in the Medico-Chirurgical College of Philadelphia; Attending Physician to the Medico Chirurgical, and Samaritan Hospitals, etc. *Illustrated. Second Edition.* Philadelphia: W. B. Saunders. 1898. Large 8vo. Pp. 1287. Cloth, \$5.50 net; Sheep or half-Morocco \$6.50 net.

It is a great compliment to any text-book, in this day of abundant publications on the same subject, to have its first edition so completely exhausted in four or five months as to demand a second. This was the case, we are informed, with the book now under notice. It is unfortunate, however, that books of such great popularity, intended as text-books for colleges, etc., should come out so late in the season, when catalogues and announcements are already published, so as not to be included in the list of class-books. We find in the present edition so few changes that it does not appear necessary for those who have the first edition to purchase the second. But the practitioner in want of a one-volume, first-class, up to date text-book on Practice of Medicine cannot find a work that is better adapted to his purposes than Anders' "Practice." It is good in description, rich in detail, and the facts noted are well sustained by competent authority. Some ungenerous criticisms have been made upon the former edition that would apply alike to this, in that the author has plagiarized some of the good sayings and tables in the work—credit to the individual being withheld. No one could be more of an advocate of "rendering unto Cæsar the things that are Cæsar's" than is this jour-

nal. But in a work of this kind, to undertake to give credit for every item that is original, would be to fill page after page with reference notes that would be of no material use to the buyer, enlarge the size of the book, increase its cost, and thus render it less accessible to the rank and file of the profession. Medical facts—as soon as they are known as such—become common property. And it appears sufficient acknowledgment, under such circumstances, for the author to state, as he does in the Preface, that he has "gleaned without stint from medical literature;" and if he has "failed to give full credit in every instance," his grateful acknowledgments "are due and are cheerfully made."

Yellow Fever—Clinical Notes. By JUST TOUTAIRE, M. D. (Paris), former Physician-in-Chief of the French Society Hospital; Member of Board of Experts, Louisiana State Board of Health. *Translated from the French.* By CHARLES CHASSAIGNAC, M. D., President New Orleans Polyclinic, etc. New Orleans: New Orleans Medical and Surgical Journal, Ltd. 1898. Cloth, 12mo. Pp. 206.

On the eve of his return to France after thirty-three years of practice of medicine in New Orleans, at his age, the author writes: "I seek *ni honor ni argentum*. My only desire is, if possible, to leave this country, which has been so hospitable to me, a useful book as a token of gratitude." Its only shortcoming, as we look upon it, is that it has not an Index. But the subject matter of the book is the thing. Of all the lectures and chapters in text-books, and monographs on yellow fever, from a genuinely practical clinical standpoint, we do not anywhere know of the equal of this work. No one who is apt to be thrown with yellow fever cases should fail to study carefully every page of this monograph, because its points are practical and made easy to appreciate clinically. Stress is laid upon the necessity of early diagnosis. Dr. Charles Faget, of New Orleans, in epidemics before and just after the Confederate War, discovered the diagnostic law of the *progressive fall of the pulse* during the first three days—regardless of the fever temperature—whether the thermometer shows a rise or a standstill, or even a slight fall. This phenomenon is met with only in yellow fever, and occurs in it in 99 cases out of a 100. In fact, "the temperature often rises one to four degrees even while the pulse continues to fall. "It is this divergence between the falling pulse rate and the rising temperature, which is Faget's law, a wonderful law, unfortunately little known." "It is just as characteristic as are

icterus and black vomit during the period of infection." Notwithstanding the fact "that its importance and value are of the highest order in enabling the making of a positive diagnosis on the first or second day, it is yet very little known." The entire chapter on Diagnosis fulfils every intent of the author, written from the standpoint. The same may be said of the chapter on Prognosis. While tempted to make some quotations at length from the chapter on Treatment, which is most excellent, we must resist—remembering that our space for a book notice is already full. But if we could persuade all doctors who may come in contact with cases of yellow fever to get this most practical of clinical works, and thoroughly master its teachings, good would be accomplished.

Editorial.

Medical Society of Virginia.

The Twenty-ninth Annual Session of this Society, to be held at Virginia Beach, August 30 and 31, and September 1, 1898, promises to be one of unusual interest. We are assured that accommodations will be ample at the Beach for the expected large attendance. Although as we write this notice over ten days remain for those proposing to present papers to forward titles of the same to the Secretary of the Society, Dr. Landon B. Edwards, Richmond, Va., to be announced in the circular *Announcement* of the session, we have received a larger number of titles than usual at a day so far in advance of the session. Beside the *Address by the President*, Dr. Lewis E. Harvie, of Danville, Va., and the *Address to the Public and Profession*, by Dr. H. E. Jones of Roanoke, Va., the *Subject for General Discussion—Diagnosis and Treatment of Diphtheria*—will be taken up by Dr. James S. Irvin, Danville, Va., *Leader*. The *Discussion* will then be opened by Drs. E. C. Levy, of Richmond, Va., and H. G. Leigh, Jr., of Petersburg, Va. The following are the names of the doctors known to date who have promised papers for the session, and titles of the same, but it is not to be considered as the order in which the papers will be presented—the Committee on Program having charge of such arrangements:

Cellular Therapy. By Dr. Mark W. Peyser, Richmond, Va.

Do Bacteria Produce Disease? By Dr. Ernest C. Levy, Richmond, Va.

Bacteriological Diagnosis of Typhoid Fever. By Dr. H. Stuart MacLean, Richmond, Va.

Results of Some Experiments Recently Made on the Relations to Metabolism in the Human Body of the So-Called Flesh Bases Kreatin and Kreatinin. By Dr. J. W. Mallett, University of Virginia, Charlottesville, Va.

Diagnosis and Treatment of Hip-Joint Diseases. By Dr. A. M. Phelps, New York, N. Y.

Report of Two Cases of Larrey's Shoulder-Joint Amputation. By Dr. W. B. Barham, New-Soms, Va.

Cancer Viewed and Treated from the Standpoint of the General Practitioner, with Reports of Cases. By Dr. Bittle C. Keister, South Boston, Va.

A Plea for Prompt Surgical Interference in Some Intra-Abdominal Injuries and Diseases. By Dr. Hugh M. Taylor, Richmond, Va.

General Tuberculosis. By Dr. Swithin Chandler, Wilmington, Del.

Clinical Experience in the Management of Tuberculous Sinuses, Abscesses and Foci. By Dr. V. P. Gibney, New York, N. Y.

Report of a Case of Pistol Shot Wound of the Pancreas and Other Viscera. By Dr. Kirkland Ruffin, Norfolk, Va.

After-Treatment of Abdominal Sections. By Dr. Samuel Lile, Lynchburg, Va.

Vaginal Method of Treating Pelvic Inflammatory Lesions. By Dr. Wm. R. Pryor, New York, N. Y.

The Importance of Early Recognition of Cancer of Uterus. By Dr. Edward McGuire, Richmond, Va.

Post-Operative Sequelæ of Both Supra-Pubic and Vaginal Extirpations of Pelvic Viscera. By Honorary Fellow Dr. Joseph Price, Philadelphia, Pa.

Abscesses of the Liver. By Dr. Edw. E. Feild, Norfolk, Va.

Long-Standing, Full-Term, Extra-Uterine Pregnancy. By Honorary Fellow Dr. J. Wesley Boveé, Washington, D. C.

Epidemic Cerebro-Spinal Meningitis. By Dr. J. Allison Hodges, Richmond, Va.

Hypnotic or Suggestive Therapeutics. By Dr. R. G. O'Hara, Bedford City, Va.

Ecchymosis of the Conjunctiva and Lids, Important Symptoms in Cerebro Spinal Meningitis. By Dr. John F. Woodward, Norfolk, Va.

Treatment of Inebriety. By Dr. T. D. Crothers, Hartford, Conn.

Importance of Early Recognition of Hutchinson's Teeth. By Dr. A. J. Nelson, Gaines' Mill, Va.

Are the Eye and Ear Tests Used in the Medical Examinations of Army and Navy Recruits Adequate and Practical? By Dr. Alex. Duane, New York, N. Y.

Prognosis of Deformity. By Dr. R. Tunstall Taylor, Baltimore, Md.

Contribution to the Study of Dysmenorrhœa. By Honorary Fellow Dr. George Tucker Harrison, New York, N. Y.

Some Observations on the Care, Maintenance, etc., of the Insane in Virginia During the Decade of 1887-1897. By Honorary Fellow Dr. R. J. Preston, Marion, Va.

Rectal Impactions Following Abdominal Operations. By Honorary Fellow Dr. George Ben. Johnston, Richmond, Va.

Teething as a Causative Factor in Disease. By Dr. Frank H. Hancock, Norfolk, Va.

Foreign Bodies in the Eye. By Dr. Harry L. Myers, Norfolk, Va.

Among others who have promised papers, but who have not yet supplied titles, are Drs. Hunter McGuire, Lewis Wheat, Richmond, Va.; Dr. John Herbert Claiborne, Petersburg, Va.; Drs. Wm. L. Robinson and Wm. Nelson, Danville, Va.; Dr. John A. Wyeth, New York; Dr. Geo. Byrd Harrison, Washington, D. C.

It is well to mention that during the session last year the limit of time allotted to the reading of a paper is *twenty minutes*, and to extempore speeches, etc., *five minutes*.

Board at "The Princess Anne," and at the "Inverness Inn"—the latter about half a mile down the board-walk—will be from \$2 to \$2.50 a day. At least 250 visitors can also be accommodated in the seashore cottages, between the two hotels, at rates of from \$1.50 to \$2 per day. In all, full six hundred extra guests can be easily provided for during this session. Hence, there will be ample accommodations.

There is nearly hourly communication by rail with Norfolk—about 18 miles distant—from 7 A. M. to 10:30 P. M.

We are assured that Virginia Beach has little or no trouble with mosquitoes; but to guard against these the hotels, etc., are fully provided with nets.

Bathing in the Atlantic Ocean during September, or at any other time of the season, is said to be unsurpassed on the Atlantic Coast. The surf is also said to be safe, and is in charge of two or more competent bathing masters.

Proper arrangements will be made for exhibitors of instruments, pharmaceuticals, etc., at reasonable prices, according to spaces engaged, etc.

The Resident Physician, Dr. Wm. L. Harris, is chairman of the Committee of Arrangements and will promptly respond to any letters of inquiry relating to this session.

Arrangements are being made with Railroads, etc., as far as practicable, for reduced rates.

The Medical Examining Board of Virginia

Will meet at Princess Anne Hotel, Virginia Beach, Va., at 8 P. M. Monday, August 29th, 1898, for the transaction of the business matters of the Board, and Examinations of Applicants to practice medicine, etc., in Virginia, will begin at the same place *promptly* 9 A. M., Tuesday, August 30th. Read the advertisement of this meeting on the fourth cover-page of this issue.

University of Virginia Scholarships for Public School Graduates.

The Faculty of the University of Virginia has just awarded the scholarships for public school graduates to Mr. W. B. Stone, of Roanoke, and Mr. A. M. Dobie, of Norfolk. These scholarships entitle the holders to \$200 per year and free tuition in the academic department of the University for three years. By enactment of the Visitors six scholarships were set aside for the graduates of the Virginia public schools; two to be filled each year. The examinations are competitive, and are set by the professors of English, Latin and Mathematics through the school Superintendent of the county or city in which the candidate for the scholarship resides.

Announcement—P. Blakiston, Son & Co., Philadelphia.

The partnership hitherto existing between Presley Blakiston and Kenneth M. Blakiston, under the firm name of P. Blakiston, Son & Co., expired June 30, 1898, on account of the death of the senior member. The business of publishing, importing and dealing in medical and scientific books, as established in 1843, will be continued by Kenneth M. Blakiston, trading as P. Blakiston's Son & Co. Prompt payment of all outstanding accounts is requested in order to facilitate the settlement necessary to this change.

Dr. F. W. Chapin

Announces in a recent circular that he will be absent from Hot Springs, Va.—of which he is one of the resident physicians—from the 20th of August to the 20th of September, 1898.

Treatment of Pulmonary Tuberculosis.

There seems to be "nothing new under the sun." The fact that so bold and yet so careful an explorer of the fields of medicine and surgery as Dr. J. B. Murphy, of Chicago, announced at the late session of the American Medical Association, in Denver, that after three years of study and experimentation he thought he had discovered a new and successful treatment of pulmonary phthisis, and reported five cases in substantiation of the claim, has caused no little wonder—even an increased admiration of the greatness of the man who gave to the world the "Murphy button." From his paper, read in abstract only, it appears that Dr. Murphy assumes that a "tuberculous lesion of the lung, like one of a joint for example, may ordinarily be healed quite readily by securing immobility—functional rest—of the affected part." Hence he "immobilizes the lung by compressing it—crowding it back upon its hilum—establishing a sort of artificial atelectasis. This he accomplishes by injecting a quantity of nitrogen into the pleural sac. Nitrogen, he finds, neither exerts any untoward effect upon the pleura, nor is absorbed to any appreciable extent; it simply keeps the pleura distended, and the pulmonary tissue compressed. It is said that during the continuance of this compression the patient feels remarkably free from the symptoms that had previously preyed upon him. The gas is allowed to remain in the pleura for a period of several weeks, and then it is withdrawn. In a goodly number of instances, the symptoms do not return, and the inference is drawn that the disease has been overcome. The lung again becomes aerated, and expands almost, if not quite, to its normal size. If on removal of the nitrogen, the morbid symptoms return, more of the gas is thrown into the pleura, and kept imprisoned there for another term of weeks. This second injection is by no means always found necessary; and when called for, it almost invariably suffices for the cure of the disease in that lung. Then the other lung is treated in the same way."

We regret very much that as yet the details of treatment have not been published. For, as the *N. Y. Medical Journal*—from which we take the above extract—points out, it must be often difficult to so guide the hypodermic needle as to exactly enter the pleural cavity, and not wound the lung tissue itself. Again, if there be strong pleuritic adhesions, as these generally are in confirmed consumptive cases, it must be difficult for the introduced nitrogen gas to

break them up. Another objection or difficulty in the way of successful treatment consists in the preponderance of tuberculous lesions in the apex of the lung which would render the majority of cases refractory. This objection, it is presumed, "rests on the assumption that the compression exerted by the nitrogen would be subject to limitations of that exercised by pleural effusion—an assumption that seems to us not wholly warranted."

In connection with the question of originality of the idea, the *Philadelphia Medical Journal*, July 2, points out that "The cure of pulmonary tuberculosis by the establishment of an artificial pneumothorax is not a new one. At the International Medical Congress held in Rome in 1894 (*Transactions*, Vol. III, *Section on Internal Medicine*, page 134), Prof. C. Forlanini, of Turin, reported several cases of pulmonary tuberculosis in which cure resulted after the development of pneumothorax; and acting upon this suggestion, he produced this condition artificially in a number of cases. He then pointed out that nitrogen is the preferable gas for introduction, because of its slow absorption; and he added that the therapeutic results are entirely local, being overpowered by the sericus general condition and that of the other lung. His report was especially intended to demonstrate the practicability of the procedure, and the endurance of the lung."

The United Confederate Veterans—Eighth Annual Reunion.

We are sorry that notice of this meeting in Atlanta, Ga., July 20-23, 1898, did not reach us in time for use in these columns. We especially regret not earlier receiving the call of the meeting from Dr. C. H. Tebault, Surgeon-General United Confederate Veterans, 623 north Lafayette Square, New Orleans, La., dated June 30, 1898. We give the address in full because his circular contains allusions to many important facts which should be recorded in history. "All Confederate surgeons have more or less data in their keeping. * * *. Each separate fact placed with others in a connected whole will fill in the needed missing links required to perfect the historic part relating to the faithfulness and unflinching devotion of the Confederate surgeons in the thorough and conscientious performance of their humanitarian professional obligations, regardless of creeds and nationalities, or whether friends or foes." If we could only persuade surviving Confederate surgeons—each to write out a full memorandum of his knowledge of events connected with the Medical and Sur-

gical History of the Confederate States of America—and forward the same to Dr. Tebault for compilation into a connected record, we would do an important service to the Southern doctor.

King's American Eclectic Dispensatory.

The Scudder Brothers Co., Medical Publishers, etc., 1009 Plum street, Cincinnati, Ohio, as general agents, announce as nearly ready for distribution an entirely rewritten and enlarged new edition of the "Eclectic Dispensatory," in two volumes, royal octavo—each volume containing over 950 pages, with complete indexes. Price per volume post-paid, cloth, \$4.50; sheep, \$5. Advance subscriptions should at once be forwarded to The Scudder Brothers Co. in order to secure early copies. This new edition has been prepared by Harvey W. Felter, M. D., Adjunct Professor of Chemistry in the Eclectic Medical Institute, Cincinnati, etc., and John Uri Lloyd, Ph. M., Professor of Chemistry and Pharmacy in the same; ex-President of the American Pharmaceutical Association, etc. It should be remembered that from the eclectic school of practice practitioners generally have acquired valuable information as to the therapeutic action of many drugs derived mostly from the vegetable kingdom. And we are not going too far in predicting that this Eclectic Dispensatory will contain much information of great bed-side value to doctors generally. We may add that the editors and publishers are capable, worthy and enterprising enough to make this work almost indispensable to him who especially seeks information about the vegetable drugs, their alkaloids, etc.

Mississippi Valley Medical Association.

The twenty-fourth annual meeting of the Mississippi Valley Medical Association will be held at Nashville, Tenn., October 11-14, 1898, under the presidency of Dr. John Young Brown, of St. Louis, Mo.

This Association is second in size only to the American Medical Association, and has done most excellent scientific work in the past. The annual addresses will be made by Dr. Jas. T. Whittaker, of Cincinnati, on Medicine, and by Dr. Geo. Ben. Johnston, of Richmond, Va., on Surgery. The mention of the names of these gentlemen establishes the fact that the Association will hear scholarly and scientific addresses.

Nashville is a most excellent convention city, and is well equipped with hotels. With the record of the meeting in Louisville in 1897, as an example, the local profession, under the leadership of Dr. Duncan F. Eve, as chairman

of the Local Committee of Arrangements, has prepared to have a better meeting.

Already titles of papers are being received. These should be sent to the Secretary, Dr. Henry E. Tuley, No. 11 west Kentucky street, Louisville, Ky., as early as possible to insure a good place upon the program. Reduced rates on all railroads will be granted on the certificate plan.

Drs. A. P. Buchanan, of Fort Wayne, Ind., and A. J. Ochsner, of Chicago, Ill., are vice-presidents; Dr. C. A. Wheaton, of St. Paul, Minn., is treasurer.

Ophthalmologist, Otologist and Laryngologists' Office Record Book.

Dr. Flavel B. Tiffany, Professor of Ophthalmology and Otology of the University Medical College of Kansas City, Mo., has issued the third edition of his Record Book which seems to be a valuable one for office practice of the specialist. Each page is designed for one patient only, and affords room for recording the results of examination and treatment for thirty visits or office calls. It contains in text and diagram much valuable data. Price, \$5. Send to the author for further information, sample sheet, etc.

To Commemorate the Late Dr. Joseph O'Dwyer.

Dr. Edwin Rosenthal, late Secretary of the Section on Diseases of Children, American Medical Association, Philadelphia, Pa., informs us that during the meeting of the Section in Denver last month, it was unanimously adopted a Memorial Committee be appointed to commemorate the late Dr. Joseph O'Dwyer, with suitable powers, etc., to collect such moneys as may be subscribed, and to act with other bodies organized for the same purpose. The committee is composed of Dr. Louis Fischer, New York city, chairman; Dr. J. P. Crozier Griffith, Philadelphia, Pa., and Dr. F. E. Waxham, Denver, Col.

Instruction in Orificial Surgery.

The twelfth annual class for instruction in orificial surgery, will assemble in Chicago at 9 A. M., Monday, September 5, 1898, and will continue to meet daily during the week, as usual. For particulars of this clinical course, address E. H. Pratt, M. D., 100 State street, Chicago.

The Remains of Hahnemann,

The founder of the sect of homeopathy, who died in 1843, have been removed by some of his followers from the Mont Parnasse Cemetery, in Paris, to the more celebrated cemetery of Pere La Chase.

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Original Communications.

PAINFUL FISSURE AND ULCER OF THE RECTUM.*

By LIVIUS LANKFORD, M. D., Norfolk, Va.

My apology for selecting this subject for a short paper, is the frequency with which it seems to be either overlooked altogether by many of our medical men, or mistaken for internal hæmorrhoids.

Fissure and ulcer of the rectum is a very painful, and not unusual malady.

I have seen a club shaped ulcer in the child and in the man of 75 years of age as well. I believe it is found more frequently in the female than the male.

These little rectal fissures and ulcers, although apparently so simple, and their relief so easy, wear out the patient's strength and produces despondency in a remarkable manner. The constant pain and irritation to the nervous system are more than the patient can generally bear.

I have had several female patients come to me, suffering from anal ulcers *only*, who confidently believed they had malignant growth in the rectum in consequence of the extreme pain and loss of flesh; yet, strange as it may appear, these patients, both male and female, will go for months and years before they will submit to a thorough examination. They will consult a physician, frequently many, but they will have their own diagnosis made out, saying "they wish something for piles." And from their own statements I have been astonished to learn that they had consulted from one to eleven physicians, each one prescribing for "piles," accepting the diagnosis of the patient, yet not once had the rectum been examined with the speculum.

Four years ago an intelligent minister who

had moved to Norfolk and taken charge of one of the leading churches, consulted me, stating that he had been a great sufferer from piles for six years and had consulted eleven physicians in that time, but was not relieved. He also informed me, in answer to the inquiry, that not one of them had examined him with the speculum. I found upon examination only a small ulcer, but suspended an inch above the ulcer and dangling into the ulcer was a pedunculated fibrous polypus. He was entirely relieved by the usual method (which will be mentioned later) and has remained so since.

I have several times seen in young women fissures which I am confident, from the history of the cases, had been of many years' standing, yet, through delicacy of feeling, they had persisted in concealing their rectal disease. I find more difficulty in getting such patients to consent to a rectal examination with speculum than to a vaginal. I do not understand why.

It is not my intention to give the *causes* of rectal fissures and ulcers, but will simply state in passing, that my experience has been that fissure is often the sequel of confinement, and its cure often retarded by the existence of a uterine displacement.

Ulcers and fissures vary greatly in size and depth. Some appear as only through the mucous membrane, while others are larger than a ten cent piece, extending down to the muscular fibres. Some of them have a very much inflamed appearance, while others look indurated and sloughy.

Now a few lines as to *symptoms*.

I have yet to see a patient with fissure or ulcer, who did not *insist* that they had "*piles only*." They will tell you that they have a discharge of a very little blood, but a tenacious matter oozing constantly on clothing. They complain of great pain at every stool, much more than the patient who has hæmorrhoids or fistula. I have recently had a female patient at the Retreat sent me from Southampton county. Though she had consulted several physicians, no diagnosis, she said, had been

*Read before the Seaboard Medical Association of Virginia and North Carolina, during its session at Virginia Beach, Va., July 14th, 1898.

given her. A very short history of the case might be of interest just here, as symptoms are most important: The first time her bowels moved after a rather severe labor, there was severe pain, and she has never had an action free of pain since; pain had gradually increased until she would go for days without attempting to evacuate the bowels. Finally, when forced to have an action, she would be thrown almost into convulsions, screaming and rolling about the bed. The pain would last for hours after each evacuation, compelling her to keep her bed. She lost flesh daily, reducing from 140 to 110 pounds, and was a perfect wreck when she arrived at the Retreat. A thorough examination of all of her organs showed them in fairly good condition, not sufficiently diseased to account for the extreme condition of prostration, until the rectum was examined with a speculum, which examination she expressed was almost as bad as her labor. I at once discovered a characteristic dorsal fissure, very deep and unusually long. She was cured in two weeks and left. While these were the most violent symptoms I have seen, yet they very nearly coincide with many others which I have attended.

Treatment.—The treatment of fissures and ulcers is very simple, and nearly always satisfactory. I prefer the operative treatment altogether.

First for fissure.—With the patient anesthetized and an Allingham's rectal speculum in, and sufficiently dilated to put the sphincter on tension, I try to cut both internal and external sphincter muscles as near half in two as possible, always careful to divide the muscles at right angles to the direction of their fibers. The speculum is then removed, both thumbs oiled and introduced, and sufficient traction made on the undivided half of both muscles to partially paralyze them, and prevent contraction until the fissure has had time to heal. I prefer cutting a little too deep into the sphincters and then dilating a little too much, even to producing incontinence of feces for a day or two, than to fail to cure the patient, for in these cases you can rest assured that you will not get a chance to operate the second time on that patient if you fail to cure him at first; they always leave and never forgive you. A small piece of wool is placed in the wound for thirty-six hours only, and the bowels confined for three days. The patient is confined in bed until the wound is healed.

The treatment for the ulcer should be a little different. If the base of the ulcer is gray and hard I thoroughly curette it with speculum

in position and ulcer on tension, then the cautery is used, and, lastly, forced dilatation of sphincter but not the knife. If it is a recent ulcer, I dispense with the curette, using only cautery and dilatation.

My object in writing this little, imperfect paper was not to attempt to teach anything new about fissure and ulcer of the rectum, but simply to suggest to young medical men, and to older as well, if they have been careless, always insist upon a thorough examination of rectum with the speculum when patients present themselves complaining of piles or any rectal affection.

189 Granby Street.

GYNÆCOLOGICAL AXIOMS.

By AUGUSTIN GOELET, M. D., New York, N. Y.

Professor of Gynecology, New York School of Clinical Medicine, etc.

1. Never use a pessary, except as a temporary or auxiliary support. Alone, it is powerless to effect a cure.
2. Never permit a patient wearing a pessary to pass from under observation. Make her understand that it is a foreign body placed temporarily in the vagina, and that it requires watching.
3. Never think a pessary can do no harm as long as it is producing no discomfort. If retained too long it may do serious damage without the knowledge of the patient.
4. Never retain a pessary, if it is producing the least discomfort. Remove it or readjust it without delay. It is a mistake to think the parts will become accustomed to its presence and the pressure.
5. Never fail to impress upon the patient the importance of daily vaginal douches while wearing a pessary.
6. Never let the patient think a pessary will cure her. She will discover the truth some day and you may lose her as a patient.
7. Never insert a pessary immediately upon discovery of the malposition, but first prepare the parts for it by appropriate treatment.
8. Never use a sound or repositior for correcting the misplacement, or for making a diagnosis. It is unnecessary and dangerous.
9. Never introduce a pessary, unless the uterus is freely movable and can be replaced by manipulation.
10. Never permit a patient to leave the consulting room with a pessary that is producing

the least discomfort. She should never be conscious of its presence.

11. Never be satisfied with a pessary unless it rectifies the malposition. If it does not accomplish this it is useless, and it may create some serious disturbance.

12. Never fail to seek the cause of the misplacement and endeavor to remove it. To lose sight of this means failure.

116 W. 74th St.

REMARKS ON ATYPICAL APPENDICITIS.*

By HUGH M. TAYLOR, M. D., Richmond, Va.,

Professor Practice of Surgery, University College of Medicine, Richmond, Va.; Surgeon to Virginia Hospital, etc.

Typical appendicitis should be as easy to diagnose as typical typhoid fever, typical pneumonia, etc. Unfortunately, we meet with a good many atypical appendicular inflammations. Appendicitis and its sequences afford a number of surgical surprises. A perinephritic, perihepatic, subphrenic, mediastinal, or a pleuritic infection may each have as a focus a post-cæcal cellulitis—a product of appendicitis; while lumbar, iliac, prevesical, inguinal, scrotal, or gluteal abscess may take origin from the same source. Many of the psoas, lumbar and iliac abscesses of the past were really cases of post-cæcal suppuration incident to appendicitis.

A case illustrating this point has just been operated upon by me. The patient—a male adult—had had an abscess discharging outside and below the iliac spine for three years. Several times, by other surgeons, the fistulous tract had been slit up the abscess cavity, which ran down into the pelvis towards the spine, packed, and drainage tubes were worn almost constantly. Celiotomy done by me revealed a matted appendix, its distal end buried in an exudate and firmly fastened to the iliac fascia in the iliac fossa; and plainly an appendicitis was the starting point of the extra peritoneal abscess.

Within the past few months, among my cases of appendicitis, it has seemed to me that I have had more than my share of cases which served to illustrate the very frequent erratic behavior of appendicitis. Let me impress the idea that the surgeon who waits for classical symptoms in all cases—with no broken link in

the chain of evidence—will overlook many until the patients have either convalesced from the attack or have passed beyond a safe operable stage. Classical symptoms and typical cases are the rule; but many cases would go unrecognized if such symptoms only were relied upon.

A case with erratic manifestations was recently seen with Drs. C. W. P. Brock and J. S. Wellford, of this city. A little boy was indisposed Wednesday and Thursday, but his physician was not called until Friday, and even at that time his symptoms were not pronounced, and did not become so until Saturday night. When I saw the patient, on Sunday evening, there was vomiting, a tympanitic belly, a rectal temperature of 100°, a pulse of 150, and other evidences of profound toxæmia—clearly stamping the case as fulminating in type. An immediate section revealed a gangrenous appendix. There had been no effort on the part of nature to wall off the focus of infection—no plastic peritonitis; resistance was completely overcome; serum was quickly changed to pus, and septic and suppurative peritonitis (diffuse) was in full blast. This case had been closely watched by experienced observers, and without warning had passed from a condition of subacute appendicitis to diffuse septic and suppurative peritonitis.

As is well known, an appendectomy in subacute appendicitis is minor surgery, while operative interference for the relief of diffuse septic or suppurative peritonitis is desperate surgery. Subacute appendicitis *per se* is a minor morbid condition, and if we could only know that it will remain subacute, we could well afford to let it alone.

Will it remain subacute? Who can tell? No one. It is not within the power of the best diagnosticians to prognose that the subacute case may not, within the next hour, change into a virulent type, and without the manifestation of distinctive symptoms. This is not an individual opinion. *Per contra*, it represents the advanced surgical thought of the day.

It is natural, but not logical, to wish to wait until the acute attack is over before operating—if we could only know it is going to recede. I have many times operated too late, but never too early. Suppose the case just cited had been operated upon within the first twenty-four hours, an appendectomy for subacute appendicitis would almost surely have been successful. Two experienced practitioners did what we all have done; *i. e.*, failed in diagnosis, because of the absence of pathognomonic symptoms, to

*These remarks were made, in discussion of some recent cases of appendicitis, before the Richmond Academy of Medicine and Surgery.

recognize a progressive increase in the morbid changes.

As we cannot differentiate between the case which is going to develop into a virulent type from one which will recede in a few days, is it right to procrastinate? I unhesitatingly class myself with the large majority of surgeons in saying, *No*. Is it not better to assume that, in its incipency even, a case of appendicitis is strictly local, and that the highest mission of operative interference is to prevent the consequences of appendicitis—notably, acute ileus through sepsis, chronic ileus through adhesions, as well as the immediate and imminent danger of diffused or circumscribed septic or suppurative peritonitis?

Will it remain subacute? A case recently seen with Drs. Edward McGuire and C. V. Carrington is an apt illustration of our inability to foreshadow the future in any subacute case.

A young woman was slightly sick Monday, Tuesday and Wednesday with symptoms of appendicitis, but of such a mild type that a positive diagnosis hardly seemed warranted. On Friday, her condition assumed a grave aspect, but the symptoms were those of perihepatitis or pleuritis. The pain—sharp and lancinating in character, causing short grunting respirations—was focused over the lower portion of the right pleura and hepatic region. There was no right iliac rigidity, no pain nor tenderness. The tissues in the right iliac region could be pushed back to the spine without eliciting pain.

Here was a history of appendicitis, while the symptoms—*i. e.*, pain, fever, pulse rate and respiration—pointed to perihepatitis. A section revealed a dead and insensible appendix and suppurative peritonitis—no pain, no lump, no muscular rigidity, and a gangrenous appendix.

The absence of pain was easily explained; a dead appendix is painless. We should not expect to find a swelling in such a case; swelling must result from plastic peritonitis (local) and by plastic peritonitis matting of bowel and omentum, or an exudate surrounding the appendix or walling in an abscess. No lymph is poured out in diffused suppuration or septic peritonitis; hence we should expect no lump in the most virulent types of appendicitis unless an acute type is engrafted upon the chronic or recurring variety.

A case recently occurred in my own practice which illustrates the need for anxiety in any type of appendicitis. A male adult had been sick for several days with supposed gastro-

intestinal disorder attended by diarrhoea. When his attention was called to it, he admitted having had some soreness about his appendix. Careful palpation failed to elicit pain, induration, or muscular rigidity. He was told that there was a suspicion of appendicitis, but that the history and symptoms did not warrant a positive diagnosis of appendicitis. He was advised to remain quiet, adhere to a rigid diet, keep his bowels open, and was given some intestinal antiseptic. In ten days I again saw him, and found a mass in the right iliac region as large as a turkey's egg—this had formed without increase of symptoms—while the patient was up and about and while he supposed himself rapidly recovering. A section revealed an appendix buried in exudation and a small abscess of recent formation.

Stereotyped cases of appendicitis are distressingly common, and admittedly are the most important of the many morbid conditions occurring in the abdomen or pelvis. The typical cases of appendicitis—acute, subacute or relapsing—present a clinical picture so clearly portrayed that it should not often be wrongly misinterpreted. The sudden onset of diffused pain, reflex in character, soon followed by local tenderness and pain at some point within the circle with the appendix as a radius, vomiting (temporary), rigid right rectus muscle, with slight fever and rapid pulse, are classical symptoms. If this picture was presented in every instance, we would have fewer mistakes in diagnosis and fewer cases in which operative interference is postponed until septic and diffuse suppurative peritonitis has, in the majority of instances, hurled the patient beyond the restorative resources of surgery.

A second case recently seen with Prof. Wm. S. Gordon further illustrates the value of early operative interference. A young man had peritonitis, so diagnosed several years ago. As he had specific urethritis at the time, there was a vague suspicion that the gonococcus was an etiological factor in his abdominal trouble. This sickness continued six weeks or more. Since his recovery, he has had a number of minor attacks of intra-abdominal trouble, lasting only a few days, from one of which he had just recovered when first seen by me. A section revealed no appendix—only a little tit at the site of the appendiculo-cæcal junction, but there was found matting of the ileum and cæcum, with firmly organized adhesions and thickened bowel walls from repeated inflammations and deposition of exudate. Several feet from the ileo-cæcal junction there was found another point of matting of the coils of

the small bowel, and here also existed the same morbid change, viz., firm adhesions, thickened bowel walls and abundant organized exudate. It was radical surgery to untangle the matted bowels at the sites mentioned, a major operation as compared to an appendectomy done early in the onset of his first attack.

I would insist that an early operation is conservative, in that it limits the amount of surgery needed to cure the patient. In the late operation, our mission is so often only to cure the consequences of appendicitis. To my mind it is clear that the first prolonged attack in this case was appendicitis and peritonitis (fibrinoplastic in type). During the six weeks of dangerous sickness, the appendix was destroyed, and the subsequent attacks continuing at intervals during the past two or three years, were attacks of acute ileus, engrafted upon subacute ileus mechanically induced—a result of the matted bowels. His years of suffering and repeated danger would have been prevented by an early surgical operation of a much less serious nature than the one finally found necessary.

This is the second case recently met with in which there was no appendix, and the case further illustrates one way in which appendicitis may induce chronic and acute ileus. The case was seen with my colleague, Prof. Paulus A. Irving. The patient, a young man, was suddenly taken with violent and persistent vomiting, shock, pain, rigid abdominal muscles, obstinate constipation, rapid pulse, and soon some febrile disturbance. A section showed fibrino-plastic peritonitis—*i. e.*, some serum in the peritoneal cavity, and flakes of lymph quite extensively sticking to the coils of intestines. A pencil-like band was found encircling and constricting the ileum about six or eight inches from the ileo-cæcal valve. This band was incised, peeled off the intestine and removed. Upon examination no appendix was found attached to the cæcum, but at its usual site of attachment there was abundant scar tissue.

Evidently this patient had appendicitis eight or ten years ago, its distal extremity was then wrapped around the ileum, and from necrosis, ligation or constant traction was separated from the cæcum.

Appendicitis is a not infrequent cause of ileus, both acute and chronic; and chronic may become suddenly acute as in the case just reported. Plastic peritonitis—matting and engorging the bowels—may cause acute ileus. Septic or suppurative peritonitis, with intestinal paresis and obstruction, is a not infrequent sequence, while the formation of adhesions and

their ultimate contraction is a not infrequent source of acute and chronic ileus.

A case seen recently with my colleague, Prof. Moses D. Hoge, Jr., illustrates the fact that we not infrequently in appendicitis have marked symptoms with slight macroscopic changes in the appendix. This young man had had one or more acute attacks, and for some months had been suffering constantly from chronic appendicitis. A section showed a surprisingly slight amount of damage to the appendix and surrounding structures. The appendix was unduly flexed and adherent to the cæcum, but was but little changed, and in this, as in not a few other cases observed, the morbid change was so slight as to lead to the suspicion that a wrong diagnosis had been made.

This case further illustrates the fact that in many cases we can form no idea as to the damage done until a section is made. Mr. Treves emphasizes, and it is common experience, that one attack may do great damage in the matter of adhesions, while few, if any, may be found after a dozen attacks.

In striking contrast is the phenomenon—perhaps even more frequently met with—of gross morbid changes in and about the appendix without alarming symptoms. I have more than once seen a normal temperature and pulse and natural facial expression, and a soft, flat belly, and yet on section found a necrotic appendix. Time and again with no local or constitutional symptoms, I have found when operating during the interim of attacks an abscess walled in by exudate.

In two cases recently operated upon, both chronic in type, I found tubercular infection of the appendix coexisting with tubercular peritonitis.

A case recently seen illustrates how difficult it often is to differentiate between appendicitis and salpingitis. The case had been variously diagnosed. A section showed both conditions to exist, *i. e.*, both tubal and appendicular infection. I can only explain the not infrequent coexistence of the appendix and right tube, ovary or broad ligament, and the less frequent occurrence of appendicitis in women by conceding the presence of the appendicula ovarian ligament of Clado. The lymphatic connection through this ligament explains the dual infection, while the additional vascular supply comes to the rescue when the feeble circulation in the appendix is threatened.

I wish in conclusion to emphasize—

1. The frequent irregular course pursued by appendicitis, and, consequently, the number of surgical surprises it affords us.

2. Our inability to ascertain which case is going to recede and not advance from bad to worse.

3. That early operative interference is conservative, in that it limits the amount of surgery needed.

4. That the so-called operable case of not a few practitioners is, in fact, a case which has passed beyond the operable stage.

SURGICAL CONVALESCENCE.

With Report of Blood Count in Twenty Cases.

By STUART MCGUIRE, M.D., Richmond, Va.,

Professor of Principles of Surgery in the University College of Medicine; Surgeon to St. Luke's Hospital and the Virginia Hospital, Richmond, Va.

Several months ago, I received a visit from an agent of the M. J. Breitenbach Company of New York, manufacturers of Gude's Pepto-Mangan, who stated that his firm was anxious for me to test their preparation on surgical cases and to publish the results. I agreed to do so, provided I be allowed to utilize the first twenty major cases on which I operated, and that his Company supplied me with the drug, and paid the cost of the necessary blood-counts.

I append a report of twenty cases. Eleven of them were private patients at St. Luke's Hospital, and nine were clinic cases at the Virginia Hospital. The histories are taken from official records, augmented by the blood-counts made by Dr. M. D. Hoge, Jr., Professor of Pathology in the University College of Medicine.

When it is remembered that the patients were all confined to bed; that they were recovering from the effects of serious surgical operations; and that they were subjected to the depressing influence of hospital life, the average increase of red blood corpuscles is remarkable. Had the cases been selected, and only anæmic patients tested, the results would have been even showier.

CASE I.—Miss E. G., aged 20; patient St. Luke's Hospital. Struck on back by windlass of well four months prior to admission. Laminectomy and removal of carious bone and clotted blood. Gave Gude's Pepto-Mangan 60 days. First count, 1,500,000 red corpuscles to the cubic millimetre. Second count, 3,300,000 to the cubic millimetre. Rapidly improving, and recovery assured.

CASE II.—Mrs. M. K., aged 29; patient St. Luke's Hospital. Cystic disease of ovaries and chronic inflammation of appendix. Double Beattie-Tait, and appendectomy. Gave Gude's Pepto-Mangan 20 days. First count, 3,950,000 red corpuscles to the cubic millimetre. Second count, 4,000,000 to the cubic millimetre. Discharged well.

CASE III.—Miss C. H., aged 22; patient St. Luke's Hospital. History of frequent attacks of hepatic colic—no jaundice. Opened the gall-bladder, and removed a calculus one inch in diameter. Gave Gude's Pepto-Mangan 28 days. First count, 3,940,000 red corpuscles to the cubic millimetre. Second count, 3,900,000 to the cubic millimetre. Bile still escaping from fistula, but patient otherwise well.

CASE IV.—Miss A. N., aged 32; patient St. Luke's Hospital. History of sudden peritonitis accompanied by profound sepsis. Exploratory incision revealed a pedunculated fibroid tumor of uterus, gangrenous from twisted pedicle. Myomectomy. Gave Gude's Pepto-Mangan 36 days. First count, 3,800,000 red corpuscles to cubic millimetre. Second count, 4,000,000 to the cubic millimetre. Good recovery.

CASE V.—Miss E. J., aged 17. Patient St. Luke's Hospital. Spinal irritation from a fall. Anæmic, emaciated, and confined to bed for more than a year from contraction of hamstring muscles. Electricity, massage and passive movements. Gave Gude's Pepto-Mangan 40 days. First count, 3,650,000 red corpuscles to the cubic millimetre. Second count, 4,425,000 to the cubic millimetre. Her menses, which had been suppressed, became regular. She fattened 20 pounds, and left the hospital walking with a cane.

CASE VI.—Miss B. T., aged 21. Patient St. Luke's Hospital. Retroverted uterus, bound down by adhesions. Opened abdomen, freed organ, and stitched it to anterior abdominal wall. Gave Gude's Pepto-Mangan 30 days. First count, 3,900,000 red corpuscles to the cubic millimetre. Second count, 3,950,000 to the cubic millimetre. Complete relief from symptoms.

CASE VII.—Master D. S. J., aged 9. Patient St. Luke's Hospital. Acute suppurative osteomyelitis of femur, tibia and tarsus on one side and of tibia and tarsus on the other. Amputated one limb and used chisel and curette on the other. Gave Gude's Pepto-Mangan 45 days. First count, 3,720,000 red corpuscles to the cubic millimetre. Second count, 4,600,000 to the cubic millimetre. Patient discharged with well healed stump, but incision in ankle still draining.

CASE VIII.—Mrs. H. E. W., aged 48. Patient St. Luke's Hospital. Carcinoma of cervix; vaginal hysterectomy by clamp method. Had a bad liver and an irritable stomach, and though Pepto-Mangan was tried in varying doses, and at different times during convalescence, she was never able to take it for more than a day or two consecutively. First count, 3,400,000 red corpuscles to the cubic millimetre. Second count, not made. Case made a slow recovery, but is now well.

CASE IX.—Master R. G., aged 14. Patient St. Luke's Hospital. Compound depressed fracture of skull from a three-pound mass of type metal falling five stories. Trephined and removed blood clot and spiculæ of bone. Gave Gude's Pepto-Mangan 21 days. First count, 3,900,000 red corpuscles to the cubic millimetre. Second count, 3,800,000 to the cubic millimetre. The loss was less than anticipated as the boy was injured while in vigorous health. Recovery rapid and complete.

CASE X.—Miss A. E. S., aged 27. Patient St. Luke's Hospital. Indigestion, constipation and dysmenorrhœa. Rapid dilatation of cervix. Gave Gude's Pepto-Mangan 34 days. First count, 3,900,000 red blood corpuscles to the cubic millimetre. Second count, 4,400,000 to the cubic millimetre. Bowels became regular, menstruation painless, and strength and weight increased.

CASE XI.—Mrs. W. A. M., aged 29. Patient St. Luke's Hospital. Symptoms of long existing ovarian and uterine trouble, to which had recently been added those of inflammation of the appendix. On section, the uterus was found retroverted, the ovaries cystic, the appendix impacted and adherent, and the intestines filled with lumbricoids. The uterus was righted, and stitched to the anterior abdominal wall—the ovaries and appendix removed, and later a brisk purgative expelled the worms. Gave Gude's Pepto-Mangan 18 days. First count, 4,200,000 red corpuscles to the cubic millimetre. Second count, 4,310,000 to the cubic millimetre. Recovery, and complete relief from symptoms.

CASE XII.—Mrs. L. A. W., aged 44. Patient Virginia Hospital. Carcinoma of breast, with extensive lymphatic involvement. Radical extirpation of disease. Gave Gude's Pepto-Mangan 10 days. First count, 4,550,000 red corpuscles to the cubic millimetre. Second count, 4,620,000 to the cubic millimetre. Case discharged in two weeks, and not heard from since.

CASE XIII.—Mrs. L. J., aged 25. Patient Virginia Hospital. Pyosalpinx, following pu-

erperal septicæmia. Opened abdomen, freed numerous intestinal adhesions, enucleated pus tubes, and removed uterus by Baer's method. Gave Gude's Pepto-Mangan 28 days. First count, 3,410,000 red corpuscles to the cubic millimetre. Second count, 4,100,000 to the cubic millimetre. Perfect recovery.

CASE XIV.—Master J. F. S., aged 11. Patient Virginia Hospital. Tuberculosis of knee and femur, with secondary infection and profuse suppuration. Amputation. Gave Gude's Pepto-Mangan 24 days. First count, 4,005,000 red corpuscles to the cubic millimetre. Second count, 4,300,000 to the cubic millimetre. Rapid recovery and marked constitutional improvement.

CASE XV.—Miss A. H., aged 25. Patient Virginia Hospital. Diseased ovaries and retroverted uterus. Double ovariectomy and ventro-suspension of uterus. Gave Gude's Pepto-Mangan 30 days. First count, 4,300,000 red corpuscles to the cubic millimetre. Second count, 4,200,000 to the cubic millimetre. Patient a hypochondriac and still complains.

CASE XVI.—Mrs. E. B., aged 36. Patient Virginia Hospital. Cirroid aneurism of scalp and forehead causing agonizing pain from involvement of orbit. Ligation of right common carotid artery. Gave Gude's Pepto-Mangan 16 days. First count, 4,400,000 red corpuscles to the cubic millimetre. Second count, 4,100,000 to the cubic millimetre. Force of pulsation diminished and pain completely relieved.

CASE XVII.—Mr. P. S., aged 51. Patient Virginia Hospital. Suppurative osteomyelitis of tibia. Amputation of limb. Gave Gude's Pepto-Mangan 28 days. First count, 3,400,000 red corpuscles to the cubic millimetre. Second count, 3,700,000 to the cubic millimetre. Recovery, with marked improvement in general health.

CASE XVIII.—Miss N. C., aged 30. Patient Virginia Hospital. Rapidly growing fibroid tumor of uterus. Complete hysterectomy and removal of mass weighing forty pounds. Gave Gude's Pepto-Mangan 30 days. First count, 3,700,000 red corpuscles to the cubic millimetre. Second count, 3,750,000 to the cubic millimetre. Intercurrent attack of pneumonia, which retarded recovery and interfered with the regular administration of medicine.

CASE XIX.—Mrs. S. S., aged 50. Patient Virginia Hospital. Carcinoma of breast. Amputated organ and dissected out adjacent lymphatic glands. Gave Gude's Pepto-Mangan 10 days. First count, 4,200,000 red corpuscles to the cubic millimetre. Second count, 4,250,000

to the cubic millimetre. No report from case since discharge.

CASE XX.—Mrs. S. J., aged 31. Patient Virginia Hospital. History of three acute attacks of appendicitis. Thin, anæmic, and nervous. Appendectomy. Gave Gude's Pepto-Mangan 26 days. First count, 2,644,000 red corpuscles to the cubic millimetre. Second count, 3,950,000 to the cubic millimetre. Gained fifteen or twenty pounds in weight, and is completely well.

Bromidia

Is well known on account of its hypnotic effect. According to an eminent laryngologist of St. Louis, it meets, in a very perfect manner, many other indications involving hyperæsthesia of nerve tips and overexcitability of spinal cord. In half teaspoonful doses, every four hours, for two days, it so benumbs the sensory nerve tips of the buccal cavity that dentists can take impressions of the mouth, fit in rubber dams, etc., that would otherwise be impossible on account of the gagging peculiar to some patients. Hay fever patients who take half teaspoonful doses every four hours can find life endurable during August and September. A teaspoonful completely quiets post partum paroxysmal pain without interfering with uterine contractions.

Prompt Solution of Tablets.

The Journal of Practical Medicine, in remarking upon antikamnia and its combinations as great favorites because of their therapeutic action, calls attention to the fact that where a prompt effect is desired, the tablets should be crushed. Oftentimes certain unfavorable influences in the stomach prevent the prompt solution of tablets. Antikamnia has not an unpleasant taste, and the crushed tablet, placed on the tongue, is easily washed down with a swallow of water. Proprietors of some other tablets would have better success if they had given more attention to this question of prompt solubility.

For Conjunctivitis,

The Paris correspondent to *Medical Press*, July 13th, 1898, says the following will be found very useful:

Protargol.....	gr. xxx.
Zinc oxide.....	
Starch.....	āā gr. xx
Vaseline.....	3ss. M.

Proceedings of Societies, etc.

MEDICAL EXAMINING BOARD OF VIRGINIA.

RESULTS OF EXAMINATIONS JUNE 22-24, 1898.

[As expressed in our issue of July 22, we regretted very much the necessity to defer the publication of the *list of successful applicants for licenses to practice medicine, etc., in Virginia*. In that issue, the *Questions* used in examinations were given, and also a brief of the *Proceedings of the Board* in executive sessions. We are glad now to be able to supplement that report, and to furnish all the details that we had hoped then to do.]

Since the adjournment of the Board, the President has rearranged the chairmen and members of the various sections, to take effect during the session of the Board to be held (for examination of applicants to practice in Virginia) at Virginia Beach, Va., August 29, 30, 31, and September 1st, 1898, as follows:

Anatomy—Dr. W. L. Robinson, Danville, Va.

Chemistry—Dr. Sam'l Lile, Lynchburg, Va.

Physiology—Dr. Robt. Randolph, Boyce, Va.

Practice of Medicine—Dr. E. T. Brady, Abingdon, Va. (Dr. E. C. Williams, Homœopathic Examiner).

Hygiene and Medical Jurisprudence—Drs. R. W. Martin, Lynchburg, Va., and R. S. Martin, Stuart, Va.

Gynecology and Obstetrics—Drs. Herbert M. Nash, Norfolk, Va., and C. W. Rodgers, Staunton, Va. (Dr. M. R. Allen, Norfolk, Va., Homœopathic Examiner.)

Materia Medica and Therapeutics—Drs. J. E. Warriner, Brook Hill, Va., and L. S. Foster, Mathews C. H., Va. (Dr. E. C. Williams, Homœopathic Examiner.)

Surgery—Dr. S. W. Budd, Petersburg, Va. (Dr. M. R. Allen, Norfolk, Va., Homœopathic Examiner.)

Histology, Pathology, and Bacteriology—Dr. R. M. Slaughter, Theological Seminary, Va.

ALPHABETICALLY ARRANGED LIST OF APPLICANTS FOR LICENSE TO PRACTICE MEDICINE, SURGERY, ETC., WHO PASSED SATISFACTORY EXAMINATIONS BEFORE THE MEDICAL EXAMINING BOARD OF VIRGINIA, JUNE 21st, 24th, 1898, AT RICHMOND, VA.:

Abbitt, Luther M., Abbitt, Va., Baltimore Med. Col., 1898.

Akers, Silas E., Carthage, Va., Univ. Col. of Med., 1898.

Archer, W. Carthon, Beaver Pond, Va., Univ. Col. of Med., 1898.

- Armistead, Thos. D., Farmville, Va., Med. Col. of Va., 1898.
- Alsop, Joseph F., Newport News, Va., Univ. of Va., 1898.
- Amiss, Emile P., Clifton Forge, Va., Univ. Col. of Med., 1898.
- Baker, C. L., Leesburg, Va., Univ. of Va., 1897.
- Barksdale, Geo. E., Richmond, Va., Univ. Col. of Med., 1898.
- Boyer, Perry L., Woodstock, Va., Non-Graduate.
- Boyd, P. W., Jr., Winchester, Va., Univ. Col. of Med., 1898.
- Batte, Henry T., Norfolk, Va., Univ. of Maryland, 1897.
- Barker, Joseph M., Univ. of Va., Univ. of Va., 1898.
- Bright, John T., Richmond, Va., Med. Col. of Va., 1898.
- Booker, Frank E., Rustburg, Va., Med. Col. of Va., 1898.
- Coleman, Howe R., Richmond, Va., Med. Col. of Va., 1898.
- Campbell, Hawes, Enfield, Va., Univ. Col. of Med., 1898.
- Corbell, R. L., Chuckatuck, Va., Med. Col. of Va., 1898.
- Chumbley, Robert E., Churchwood, Va., Univ. Col. of Med., 1898.
- Conduff, Simon P., Riner, Va., Baltimore Med. Col., 1898.
- Cowardin, Wm. J., Richmond, Va., Univ. Col. of Med., 1898.
- Collins, Wm. S., Oak Park, Va., Univ. Col. of Med., 1898.
- Conduff, Saml. I., Willis, Va., Baltimore Med. Col., 1898.
- Carwell, U. M., Middlebrook, Va., Univ. of Va., 1898.
- Drewry, F. D., Mason's Depot, Va., Med. Col. of Va., 1898.
- Dunn, W. W., Richmond, Va., Col. Phys. and Surgeons, New York City, 1894.
- Dunlap, Verner W., Middlebrook, Va., Phys. and Surgeons, Baltimore, 1897.
- Doughtie, Chas. W., Whaleville, Va., Med. Col. of Va., 1898.
- Eppes, J. P., Blackstone, Va., Non-Graduate.
- English, Beverly J., Rocky Mount, Va., Baltimore Med. Col., 1898.
- Early, L. S., Jr., Evington, Va., Univ. Col. of Med., 1898.
- Early, Bernard H., Hillsville, Va., Univ. Col. of Med., 1898.
- Emerson, G. O., Leatherwood, Va., Univ. Col. of Med., 1898.
- Early, Wm. L., Wolfstown, Va., Med. Col. of Va., 1898.
- Fairfax, H. Reginald, Lynchburg, Va., Med. Col. of Va., 1898.
- Fortune, Robt. E., Damascus, Va., Univ. Col. of Med., 1898.
- Garrett, J. R., Norfolk, Va., Univ. Col. of Med., 1898.
- Gordon, Pat. L., Camden C. H., N. C., Univ. Col. of Med., 1898.
- Gwathmey, Wm., Benlopville, Va., Med. Col. of Va., 1898.
- Giles, Geo. O., Martinsville, Va., Univ. Col. of Med., 1898.
- Gravely, Chas. R., Norfolk, Va., Univ. of Va., 1892.
- Gayle, Marcus, Bohannon, Va., Med. Col. of Va., 1898.
- Howell, Paul W., Yale, Va., Univ. Col. of Med., 1898.
- Henderson, E. H., Wabash, Va., Univ. Col. of Med., 1898.
- Hall, J. Clegg, Star, N. C., Non-Graduate.
- Hughes, T. Jefferson, Chatham Hill, Va., Univ. Col. of Med., 1898.
- Hoskins, Wm., Carlton Store, Va., Med. Col. of Va., 1898.
- Halligan, John B., Petersburg, Va., Med. Col. of Va., 1898.
- Hillsman, B. Canton L., Richmond, Va., Univ. Col. of Med., 1898.
- Hood, Benj. A., Richmond, Va., Med. Col. of Va., 1898.
- Johnson, Harvey G., Pearisburg, Va., Non-Graduate.
- Jeffress, W. Arthur, Finchley, Va., Univ. Col. of Med., 1898.
- Jones, W. Percy, Urbana, Va., Med. Col. of Va., 1898.
- Jarrett, Joseph T., Roanoke, Va., Univ. Col. of Med., 1898.
- Keller, Wm. L., Richmond, Va., Non-Graduate.
- Linkous, Maury B., Price's Fork, Va., Non-Graduate.
- Lemons, C. W., Richmond, Va., Univ. Col. of Med., 1898.
- Mancha, Jacob S., Claremont, Va., University of the city of New York, 1884.
- Miller, Walter P., Newport, Va., Univ. Col. of Med., 1898.
- Newton, McGuire, Richmond, Va., Univ. Col. of Med., 1897.
- Olhausen, Frank B., Harrisonburg, Va., Univ. Col. of Med., 1898.
- Farrish, Hugh F., Portsmouth, Va., University of Vermont and Bellevue Medical College, 1895.
- Pearson, Geo. B., Newport News, Va., Albany Med. Col., 1897.
- Pope, Benj. A., Newsom's, Va., Med. Col. of Va., 1898.
- Pemberton, Henry R., Richmond, Va., Col. Phys. and Surgeons, N. Y. City, 1894.
- Repass, James F., Farvonia, Va., Louisville Med. Col., 1891.
- Rennie, John G., Amelia C. H., Va., Non-Graduate.
- Robertson, W. Bolling, Plasterco, Va., Univ. Col. of Med., 1898.
- Reid, Wm. G., Richmond, Va., King's College, London, Eng., 1877.
- Shelton, Rawley, M., Elba, Va., Univ. of Va., 1897.
- Straw, Edwin E., Rural Retreat, Va., Vanderbilt University, 1898.
- Thompson, Willie M., Gogginsville, Va., Univ. Col. of Med., 1898.
- Taylor, T. M., Richmond, Va., Univ. Col. of Med., 1898.
- Tynes, Archelles L., Tazewell, Va., Univ. Col. of Med., 1898.
- Thompson, A. J., News Ferry, Va., New Orleans School of Medicine, 1858.
- Thrift, Ernest McCue, Madison, Va., Univ. Col. of Med., 1898.
- Upshur, Francis W., Richmond, Va., Med. Col. of Va., 1897.
- Willis, F. D., Newport News, Va., University of Maryland, 1897.
- Wright, J. Alex., Richmond, Va., Univ. Col. of Med., 1898.
- Wood, Austin F., Moormans Rivers, Va., Univ. Col. of Med., 1898.
- Wayland, A. B., Coveseville, Va., Univ. of Va., 1897.
- Williams, J. Richard, Richmond, Va., Med. Col. of Va., 1898.
- Watson, Edmond C., Roanoke, Va., Univ. Col. of Med., 1898.
- Walker, Jasper N., Cove Creek, Va., Univ. of Va., 1898.
- Wysor, J. C., Clifton Forge, Va., Col. Phys. and Surgeons, Baltimore, 1878.

INSTITUTIONS REPRESENTED BY THE APPLICANTS
BEFORE THE
MEDICAL EXAMINING BOARD OF VIRGINIA,
FROM THE ORGANIZATION OF THE BOARD, JANUARY 1, 1885,
TO JUNE 24, 1898.

	Total Number from each Institution.	Total Number Licensed First Examination.	Total Number Rejected First Examination.	Licensed on Second Examination.	Rejected Second Examination.	Licensed Third Examination.	Rejected Third Examination.	Incomplete or Withdraw.
Medical College of Virginia.....	220	173	34	13	7	3	1	6
University of Virginia—Medical Department.....	171	164	4	3		1		
University College of Medicine, Richmond.....	97	80	9	11	1	1		
Baltimore Medical College and University Col. of Medicine, Richmond	132	2						
College of Physicians and Surgeons, Baltimore.....	123	94	32	4	1	3		4
University of Maryland.....	145	110	32	2	3			
Baltimore Medical College.....	143	16	21	2	7	4	1	3
Baltimore University.....	41		9	2				
Washington University, Baltimore (Extinct).....	1		1					1
National Medical College, Washington, N. Y. C.	2		1	1				1
University of Georgetown, D. C., Medical Department.....	2	1	1					
Howard University, Medical Department, Washington, D. C.	27	5	19		1	2	1	
University of Maryland and Baltimore Medical College.....	1		1					
Georgetown College, Washington, D. C.	40							
Jefferson Medical College.....	40	26	11	2	2			1
Jefferson Medical College and University of Virginia.....	1	1						
University of Pennsylvania.....	18	15	3	1				
Medico-Chirurgical College of Philadelphia.....	2		2		1		1	
Medical College of Philadelphia.....	2							
Woman's Medical College of Pennsylvania.....	2		1					1
Hahnemann Medical College and Hospital (Homoeop.), Philadelphia.....	6	4	2					
University of the City of New York, Medical Department.....	29	17	10		1	1		
University of New York.....	1		1					
University of Virginia and New York.....	1							
Bellevue Hospital Medical College, New York.....	18	17	1	1				
University of Virginia and Bellevue Hospital Medical College.....	1							
College of Physicians and Surgeons, New York.....	12	11	1	1				
Gonova Medical College, New York (Extinct).....	1							
College Physicians and Surgeons, New York, and University of Va.....	1							
Long Island College Hospital, Brooklyn.....	4	2	2					
Yale Medical School, New Haven.....	4							
University of Vermont, Burlington.....	2	2	2	1				
Miami Medical College, Cincinnati.....	4	2						
Columbus Medical College.....	3	2	1					
Homoeopathic Hospital College, Cleveland.....	2	2	2					
Fulton Medical College, Cincinnati (Homoeopathic).....	22	9	3	2	2		3	
Louisville Medical College.....	16	11	5					
University of Louisville, Medical Department.....	8	7	1					
Kentucky School of Medicine, Louisville.....	18	7	1	1				
Hospital Medical College, Louisville.....	8							
Vanderbilt University, Nashville.....	7	6	1					
University of Tennessee, Nashville.....	2	2						
University of the South, Sevanee, Tenn.....	1		1					
Leonard Medical College, Raleigh (Colo.).....	25	15	7	3	2		1	
Medical College of State of South Carolina, Charleston.....	4							
Southern Medical College, Atlanta.....	4	2	2					
Atlanta Medical College.....	2		2					
Tulane University, Medical Department, New Orleans.....	3	3						
University of Louisiana (probably Tulane University).....	1	1						
Medical College of St. Louis (Extinct).....	1							
St. Louis Medical College, Missouri.....	1							
Detroit Medical College, Michigan.....	3	2	1	1				
University of Michigan, Medical Department, Ann Arbor.....	5	5						
Michigan College of Medicine and Surgery, Detroit.....	3		1					
Chicago Homoeopathic Medical College.....	3	2	1					
Hahnemann Medical College and Hospital, Chicago.....	1	1						
University of Heidelberg, Germany.....	1							
St. George's Hospital, London.....	2	1	1					
Georgetown University.....	1	1						
King College, London.....	2		1	1				
Tennessee Medical College, Knoxville.....	4	1	2	1		2		
Jefferson Medical College.....	1				1		1	
Western Reserve Medical College, Cleveland.....	1							
Rush Medical College, Chicago.....	2							
National University of Ohio.....	2	1						
Electric School, Cincinnati.....	2		1					
Cincinnati Medical College.....	2	1	1					
Southern Homoeopathic Medical College, Baltimore.....	6	4	2	1				
Woman's Medical College, Chicago.....	1	1						
Columbian College.....	6	4	2	1	1			
Jefferson Medical College, Phila., and Baltimore Medical College.....	1							
Harvard Medical College.....	1		1					
Central Tennessee College.....	1		1					
Woman's Medical College, Cincinnati.....	1	1						
Northwest University, Chicago.....	1							
College of Surgeons, London.....	1		1					
Colleges unknown.....	7	4	2					1
University of Vermont and Leonard Medical College.....	2		1		1			
Georgetown University, D. C.	1		1					
Stirling Medical College, Ohio.....	1							
Beaumont Medical College.....	1		1					
McHarris College, Nashville, Tenn.....	1		1					
Albany Medical College.....	1	1						
New Orleans School of Medicine.....	1							
University of Vermont and Bellevue Medical College.....	1	1						
Non-Graduates.....	184	55	110	5	9		1	8
Totals.....	1,363	910	371	60	40	18	12	28

Nos. of exam- ination papers.	LIST OF INSTITUTIONS Whose Graduates were Rejected by the Medical Examining Board of Va., at its Regular Spring Meeting, June 21st to 24th, 1898. With Percentage Marks of each.	Hygiene and Med. Jurisprudence.	Chemistry.	Anatomy.	Physiology.	Histology, Pathol- ogy, Bacteriology.	Obstetrics and Gynecology.	Medical Jurisprudence and Therapeutics.	Practice.	Surgery.	Total.	Average Percentage.	REMARKS.
1	Jefferson Medical College, Pennsylvania.....	57	63	68	75	73	79	60	75	64	67	67	
2	Louisville Medical College.....	60	36	39	35	38	48	35	43	38	43	43	
3	Medical College of Virginia.....	40	34	39	75	73	77	70	83	55	62	62	
17	Non-Graduate.....	31	34	39	75	73	77	70	58	62	60	60	
21	Non-Graduate.....	70	83	50	75	60	79	80	75	30	67	68	
34	Baltimore Medical College.....	81	31	58	87	65	70	67	42	57	63	63	
38	Non-Graduate.....	57	57	57	57	57	57	57	57	57	57	57	
39	Starling Medical College.....	52	30	24	25	5	69	71	25	34	36	37	
40	Non-Graduate.....	54	63	45	76	50	71	74	60	73	58	63	
44	University College of Medicine.....	74	66	59	75	72	67	69	56	54	52	65	
45	Beaumont College, St. Louis.....	18	61	50	70	30	48	50	20	38	45	46	
46	Leonard Medical College, N. C.....	62	24	41	65	45	46	59	70	25	47	47	
47	McHarry College, Nashville, Tenn.....	66	57	20	45	39	39	58	15	33	39	41	
48	Non-Graduate.....	30	40	47	75	65	73	75	76	40	51	61	
49	Louisville Medical College.....	71	51	42	65	55	59	60	52	51	51	56	
52	Medical College of Virginia.....	62	45	81	89	71	79	89	77	40	63	70	
57	Non-Graduate.....	55	26	30	50	20	34	52	28	35	33	37	
58	Non-Graduate.....	62	67	63	70	75	54	89	60	65	61	68	
60	Medical College of Virginia.....	53	65	68	82	60	66	80	70	71	61	68	
62	Medical College of Virginia.....	71	71	50	75	65	72	74	68	63	61	68	
64	Baltimore Medical College.....	45	48	48	48	48	48	48	48	48	48	48	
65	Non-Graduate.....	67	62	55	70	50	65	81	70	71	59	65	
66	Baltimore Medical College.....	71	19	63	75	60	74	73	82	52	62	65	
67	Non-Graduate.....	63	46	67	66	70	73	87	70	68	61	68	
69	Non-Graduate.....	62	81	67	67	75	74	87	70	83	66	74	
70	Non-Graduate.....	69	52	61	75	70	75	87	75	68	63	70	
71	University of Virginia.....	72	32	69	88	75	71	81	79	75	65	71	
72	University of Virginia.....	78	55	73	94	55	71	74	62	48	61	68	
75	Non-Graduate.....	65	48	62	80	58	74	84	75	81	62	69	
81	Non-Graduate.....	61	59	60	73	75	63	70	43	43	43	63	
82	Non-Graduate.....	76	61	73	75	58	72	90	75	56	63	70	
84	Non-Graduate.....	73	75	65	80	50	86	86	70	55	62	67	
89	Baltimore Medical College.....	69	40	59	75	40	73	74	68	57	56	61	
91	University College of Medicine.....	63	58	61	80	55	80	67	70	70	62	69	
96	Physicians and Surgeons, Baltimore.....	65	33	51	60	25	66	42	70	51	46	51	
98	Physicians and Surgeons, Baltimore.....	77	77	62	70	50	70	73	40	83	67	67	
99	Medical College of Virginia.....	65	70	76	80	60	72	63	68	72	62	69	
106	Non-Graduate.....	56	30	54	40	70	69	74	75	39	63	74	
116	Medical College of Virginia.....	71	61	54	83	70	70	80	60	64	61	68	
117	Physicians and Surgeons, Baltimore.....	84	25	51	95	60	80	73	80	90	68	70	
119	Non-Graduate.....	54	52	60	45	66	62	65	63	48	52	65	
120	Howard University.....	75	45	53	80	52	52	67	75	60	59	63	
124	Medical College of Virginia.....	75	39	49	75	55	80	79	61	54	58	65	
127	Medical College of Virginia.....	72	60	51	75	75	75	75	75	75	75	75	
128	Howard University.....	73	63	64	75	55	75	75	68	48	59	65	

INSTITUTIONS REPRESENTED BY APPLICANTS
WHO CAME BEFORE THE
MEDICAL EXAMINING BOARD OF VIRGINIA,
SPRING SESSION AT RICHMOND, VA.,
June 21st to 24th, 1898.

Institutions Represented by Applicants	Total Number of Applicants from each College.	Total Number of Applicants Licensed from each College.	Total Number of Applicants Rejected from each College.	Withdrawals.	Incomplete.
University College of Medicine, Richmond, Va.....	36	31	2		
Medical College of Virginia, Richmond, Va.....	26	18	2		
University of Virginia, Charlottesville, Va.....	10	8	4		
Baltimore Medical College, Baltimore, Md.....	1	1	1		
Jefferson Medical College, Philadelphia.....	1	1	1		
Louisville Medical College, Louisville, Ky.....	3	1	2		
Vanderbilt University.....	1	1	1		
Starling Medical College.....	1	1	1		
Beaumont Medical College, St. Louis.....	1	1	1		
Leonard Medical College, N. C.....	1	1	1		
McHarry College, Nashville, Tenn.....	1	1	1		
University of the City of New York.....	1	1	1		
University of Vermont and Bellevue Medical College.....	1	1	1		
University of Maryland, Baltimore, Md.....	2	1	1		
Albany Medical College.....	1	1	1		
College of Physicians and Surgeons, New York City.....	2	2	2		
College of Physicians and Surgeons, Baltimore, Md.....	2	2	3		
Kings College, London, Eng.....	1	1	1		
Howard University, Washington, D. C.....	1	1	1		
New Orleans School of Medicine.....	1	1	1		
Non-Graduates.....	25	7	18		
Total.....	130	84	45	1	

Analyses, Selections, etc.

Angina Pectoris and Cardiac Palpitation—Their Speedy Relief.

Dr. Beverly Oliver Kinnear, New York city, says (*Med. Record*, July 16th, 1898,) that rarely do any of the remedies so far discovered permanently arrest the course of angina pectoris. The disease may be associated with certain organic heart troubles, or there may be no serious lesion of the heart itself, and yet the attacks will progress for several years, increasing in frequency and severity, and then terminate fatally.

Have the real causes of angina pectoris yet been discovered? If so, are remedies or any system of treatment discovered which will subdue the seizures and arrest and cure the disease?

Trousseau finds a resemblance between this disorder and epilepsy, and it may be mistaken for asthma, certain hysterical attacks, myalgia, intercostal neuralgia, and the early stage of acute pleurisy.

The late Dr. Flint, in his "Practice of Medicine," says that the patient is suddenly attacked with an agonizing pain in the precordial region (usually commencing on a level with the xyphoid cartilage), extending through the back and along the left arm. This pain is of a stabbing character, and produces a sensation of impending suffocation—a feeling as if death were near at hand. With this condition, the countenance becomes deadly pale, and is expressive of extreme suffering and anxiety; the surface is covered with cold perspiration; the pulse falters, and may be almost imperceptible; the respiration is short and hurried; the face is livid; and the patient is unable to lie down or even to move, for the least motion aggravates his sufferings. His consciousness is undisturbed, and his spinal as well as cerebral functions are unaffected; but there may be slight wandering as the attack passes off. Not infrequently the rhythm of the heart's action is undisturbed, and the patient does not even experience palpitation. Sometimes the action of the heart is so deranged that syncope, or even sudden death, occurs. The paroxysms usually gradually subside after a few minutes, or at longest an hour. The attacks may come on during sleep. At first, there are long intervals between them, but, after a time, they become frequent. Between the attacks the health may be unimpaired.

The most important as well as the most noticeable symptoms of such seizures seem, there-

fore, to be the pain, the cold surface of the body, and the feebleness or irregularity of the pulse, the latter symptom denoting either great weakness of the heart muscle or abnormal central nerve action controlling its function. This weakness and irregularity are especially dangerous because the patient fears to inspire deeply, believing that the pain will thereby be increased; therefore proper oxygenation of the blood during an attack fails to take place. Attacks may be induced by physical exertion, mental anxiety, indigestion, and other causes, but whatever the cause, the features of the seizure are always similar. Although of acknowledged nervous origin, the writer has heard of no attempt to explain the described symptoms as due to disease of the nerve centres, nor of any one attempting, upon such a hypothesis, to set forth a treatment which, by acting on the central nerve cells, would abolish the attacks of pain and respiratory distress, thus changing the progress from a downward to an upward course, ending in complete recovery.

He essayed now to present a treatment based upon such a hypothesis. Pain as a factor may be induced by two chief causes within the body; either as the result of local pressure, as from tumors or inflammatory enlargements, or as a manifestation of abnormal or increased function in the sensory centres of the cerebro-spinal system, evidenced by pain at the nerve terminals connected with the affected centre.

In angina pectoris, there is rather a lack of circulation in the painful parts, and a contracted condition of the arterioles of the whole surface of the body, demonstrated by the cold body with cold perspiration; therefore it would seem that pain, in the majority of these cases, is induced by trouble at the centres of the nerves affected. There are two reasons which cause him to believe that the trouble consists in simple hyperæmia of spinal sensory centres.

First, because the function of a sensory centre is to induce sensation; and this it cannot do unless supplied with its normal amount of blood, since the organs and tissues receive their proper nutrition in the form of food and oxygen through the blood. This being true, an organ or tissue, receiving an excessive supply of blood in active circulation, will have increased nutrition and function. Therefore, if there is active hyperæmia in a sensory centre, there must result increase of function, which is increased sensation, which is pain.

Secondly, because, in a very large number of cases of neuralgia—and in one of angina pectoris—he has cured the attacks by applying

cold over the sympathetic ganglia and the spinal cord, the cold expelling the excess of circulation from the hyperæmic centres, with a resulting speedy cessation from pain; and, in the case of angina pectoris, a glow of warmth follows over the whole body, evidencing an expansion of the arterioles in active circulation, resulting in a dry surface, and the restoration of normal temperature. The case of angina pectoris wholly cured was a severe one, especially with regard to pain. A spinal ice-bag, worn once a day and extending from the fourth dorsal to the third lumbar vertebra, entirely relieved the patient, and now, after five years, he has had no return of the disease.

The cold surface of the body during the seizures denotes hyperæmia of the sympathetic ganglia; therefore constriction of the general circulation; and the treatment must be such that the blood will be expelled from these centres, and immediately this is effected, it will be distributed normally throughout the body and withdrawn from the hyperæmic sensory centres, rapidly abolishing pain. This treatment gives prompt relief in the majority of cases. It also meets the indications, and, if used wisely for a time, will eradicate the central nerve trouble. Any treatment which will universally dilate the arterioles will subdue the attacks; and the success which has attended the use of amyl nitrite is most probably due to just such action.

Oxygen by inhalation is another remedy which is apt to prove most valuable for relieving the attacks of angina. When properly diluted with another gas of lighter specific gravity, it is readily absorbed by the pulmonary capillaries; and after it enters the circulation, its first effect is to dilate the coronary arteries, and a normal amount of blood—saturated with oxygen—being thus added to the enfeebled organ, the heart-muscle is stimulated and its weakened action overcome in the attacks. The secondary action of the gas is to dilate the arterioles, thus distributing the circulation, thereby warming the body, exciting renewed and active metabolic changes, and withdrawing the excess of blood from the hyperæmic sympathetic ganglia and cerebro-spinal nerve centres. Oxygen alone will probably speedily relieve the attacks of this disorder, but in combination with cold to the spine and heat to the extremities, it will no doubt be found the speediest method to relieve such attacks. Probably, also, if this combined treatment without the heat be continued daily for some months—in some cases even a shorter time—a majority of the cases will result in a cure.

Only pure oxygen properly diluted, prepared solely for therapeutic purposes, is of any value. The most efficient formula now in use is that of the London Oxygen Hospital, and consists of two parts of pure oxygen, one part of nitrous monoxide, and one per cent. of ozone, to keep the mixture fresh when in the cylinder. Pure and properly diluted oxygen, when inhaled, induces the same effects upon the pulse, temperature and nutrition, as does the application of cold over the spine; but whether by its action through the blood upon the nerve centres, or by its local stimulating effect upon every tissue cell within the body, it is hard to say—most probably, however, the latter way.

Cardiac palpitation is easily controlled, in the majority of cases, by cold over the spine applied from the fourth cervical to the third lumbar vertebra in anæmic people, or in those run down from overwork, anxiety, or the abuse of tea, coffee, tobacco, or alcohol. In palpitation, with tendency of blood to the head, with cold lower extremities, the spinal ice-bag from the fourth dorsal to the third lumbar vertebra, once or twice a day for forty minutes, will do great good, care being taken, however, to move the bowels regularly.

Oxygen inhalations will act in these cases speedily and curatively for the same reasons as in angina pectoris. Oxygen by cylinder is easily administered. Two inhalations three times a day, taken standing and before meals, with an interval of two minutes between the inhalations, are sufficient for the daily treatment of angina pectoris and palpitation.

Prof. Behring—the Patent Medicine Vendor.

How the great has fallen! Until recently, Behring's name was honored as among the great in science and philanthropy. Hereafter it is to go down in medical history as the author of a patent upon a process and a product which has saved many lives and may save many more. How much more to be honored is the untarnished name of Jenner! Or that of the illustrious Simpson who introduced chloroform! Or that of the even more illustrious J. Marion Sims who revolutionized gynæcology and invented instruments of inestimable service!

It appears that in January, 1895—a fact we had lost sight of—"Emil Behring made application for a United States patent on diphtheria antitoxin; that his claim was *five times refused* on the most cogent and substantial grounds, and in simple justice to the long line of bacteriological investigators who had clearly contributed to the results which Behring sought

to monopolize; that after the lapse of three years, and after five distinct refusals, a patent was granted in June, 1898, by the Board of Appeals in Washington, on the *sole and avowed consideration* that Behring's work had helped to reduce the diphtheria mortality; and that now the manufacturers of the Behring serum, his assignees known as the *Höchst Farbwerke*, have served notice of their monopoly on the leading American manufacturers, with menace of suit if the German monopoly be not respected."

Continuing its expressions of just indignation, the *Bulletin* editorial from which we have copied, further says:

"On the behavior of the *Farbwerke* (*normal Meister, Lucius & Brüning*) we have no comment to make; they have acted in accordance with their lights. They are a commercial house and pretend to no higher motives than those of the average business man. Patents on medicinal substances, monopolies, exploitation of the American public to the full extent permitted by our criminally indulgent laws—these things are mere matters of business in eyes so long accustomed to that ignoble scramble for patents and monopolies, which stains and besmirches the recent annals of German science. The Germans affect to despise the sordid motives and the frantic dollar-chase of the Americans; 'Americanism' is a German term of reproach; but in no land and in no degenerate age have scientific men been more prone than to day in Germany to throw professional dignity and professional duty to the winds, joining in the wild pursuit of monopolies and dollars as frankly and cynically as any American 'promoter.' If we Americans have been the teachers, the Germans have proved apt pupils; and they are now abundantly qualified to instruct their preceptors.

"But from this whole disgusting and paltry rapacity a few German scientists had thus far held aloof. Rudolph Virchow is one of them. Emil Behring was another. Until recently, Behring belonged to that noble band of chosen spirits whose names are handed down from generation to generation as the benefactors of mankind. What is he to day? With sorrow we answer: the cheap and mercenary monopolist who tarnishes for money the luster of his scientific fame; the fit companion of those who originated antipyrin, phenacetine, salol—and received their price; the Esau of German science who flings away for a beggarly mess of pottage his claim to a glorious immortality,

and an ethical standing which, though it cannot be weighed or measured or gauged, or expressed in dollars and cents, should be as precious to its possessor as a woman's chastity or a man's honor; nay, more—and mark this well—the greedy and unscrupulous appropriator of other men's researches; the spurious claimant of reward for work done in large measure by Pasteur, Roux, Sewell, Fraenkel, Foa, Bonome, Kitasato, Wernicke, Aronson, Hericourt, Richet, Emmerich, Ogata, Jasuhara, Tizzoni, Cattani, Ehrlich and many others.*

"But though Professor Behring has seen fit to descend to the level of monopolists and promoters, he has reckoned without his host and he may yet vainly seek his reward. Not a court in the United States will uphold such a preposterous patent; the claims of his minions will be disputed and fought to the last trench; and in the sequel he may find that there is a limit both to the exploitation of American patent laws, and the appropriation of credit for other men's work.

"Meantime, be it remembered to our shame as Americans, that in Germany the very claim for such a patent would be scouted and repelled. The laws of Germany and France withhold all patents on foods and medicines, save on processes of manufacture, and in this instance Behring could not possibly secure at home what he has been granted in the United States. In Germany he accepts the situation and makes the best of the existing competition; in America he would suppress all competition and remain undisputed master of the field! Is it not high time to bring some organized effort to bear on Congress for a change in the patent laws? Is it not a scandal and a shame that foreigners should enjoy in America monopolies and concessions which are denied them at home? Consider the oppressive extortion to which this has given rise. Remember phenacetine, sulphonal, antipyrin, salol—marketed here at prices outrageously excessive. Remember that not an ounce of these products may be legally purchased in Canada and imported into the United States *duty paid*. Is there no limit to American patience? How long shall we continue to tolerate the foreigner's extortion—how long will he fatten on the monopolies which American laws create for him?"

This matter is of such vital importance to the profession that we are sure our readers will bear with us in making the following extract from an editorial in the *Medical Age*, which gives some further details and comments which thoroughly voice our opinion:

*See chapter on "Acquired Immunity," Sternberg's *Immunity and Serum Therapy*."

"Professor Behring claims as his invention:

1. A process 'of producing diphtheria antitoxin, which consists in inoculating horses or other animals capable of being infected with diphtheria with repeated doses of diphtheria poison or living diphtheria bacilli of gradually increasing quantity and strength so as to immunize them and form in the blood a counter-poison for destroying the poison secreted by said bacilli, drawing off the blood from said animals, separating the serum from the blood corpuscles, and concentrating the former for use substantially as set forth.

"2. As a new substance, diphtheria antitoxin, consisting of the concentrated serum of the blood of animals treated with diphtheria poison and having the characteristic of immunizing test animals against infection with diphtheria, and curing them when artificially infected with diphtheria, said serum containing a counter-poison having the property of destroying the poison secreted by the diphtheria bacilli substantially as set forth."

"It is almost superfluous to point out to any well-informed reader that Behring's claim to have done this is as preposterous as it is unjust. The principles upon which immunization to diphtheria was finally achieved were of gradual growth, the outcome of researches by thousands of untiring workers. The foundation of the work was undoubtedly laid by Pasteur in his method of immunizing against chicken cholera and anthrax. So long ago as 1887, Sewall immunized pigeons against the poison of rattlesnakes. He says, with genuine modesty, his work was undertaken with the hope that it might form a worthy contribution to the theory of prophylaxis, and it was a most worthy contribution. In 1887, Roux and Chamberland immunized animals against malignant edema with sterilized anthrax cultures. In 1890, the same year in which Behring and Kitasato published their results in immunizing animals against diphtheria and tetanus, Fraenkel published his results in diphtheria after treating animals by weakened germs and filtered cultures. In the clinical uses of the serum, Aronson's name must not be forgotten. His serum was first used in the Children's Hospital at Berlin in 1894. The serum of Roux had been used in one of the hospitals of Paris a month earlier than Aronson's in Germany. Emerich and Aronson both dispute the priority of Behring, and the French Academy of Sciences awarded their prize for antitoxin jointly to Behring and Roux, a fact which very clearly denotes the difficulty of estimating priority of merit in a scientific

struggle in which the numerous competitors were so equally distinguished.

"The principle which lies at the foundation of the invention of diphtheria antitoxin, and that which underlies all serum therapeutics, is that the blood of immune animals can be used in the treatment of others. Behring did not discover this principle, and in its application he was undoubtedly anticipated by the Japanese workers. If to any single man must be ascribed the distinction of being the inventor and discoverer of the beneficent principle of immunization, the honor belongs to the immortal Pasteur.

"The manufacture of antitoxin has been carried out for many years in England, France, Switzerland, Italy, Russia, and Japan, and in these countries no one has had the temerity to attempt to control exclusively its manufacture. In this country it is made by five Boards of Health and by several manufacturing firms. In this country alone has an attempt been made to monopolize its production, it being admitted that elsewhere the claims of any patentee are inadmissible.

"If Professor Behring admits any merit in the work of his predecessors and contemporaries, his claim to be the exclusive inventor of diphtheria antitoxin is in contravention of all the ethics of a scientist's career. His claim is an offence against common morality."

Treatment of Paralysis—Transplantation of Tendon

Herr Vulpus, in speaking on the above subject before the German Surgical Society, Berlin, said that although club-foot had been successfully treated, in the paralytic form, the paralysis was not removed. This was achieved by transplantation of the tendon of a functionally active muscle. The operation was not by any means difficult. A plastic dressing was afterwards applied. Gymnastic after-treatment was of great importance. He had operated in this way in twenty-eight cases. In one case in the thigh he had transplanted the tendon of the sartorius on to the paralyzed quadriceps. The procedure was of great importance in the upper extremity. In one case of paralysis of the flexor of the fingers he had transplanted the tendon of the flexor carpi radialis on to the flexor sublimis digitorum.

Hr. Frank in a case of paralysis of the extensor of the wrist had shortened the extensor carpi radialis, and on the ulnar side had attached the extensor digitorum communis. The child, who was previously helpless, could write with the hand, knit, and dress herself. The method could also be employed in spastic paralysis.—*Medical Press, etc.*, July 13, 1898.

Shafter's Responsibility.

The *Chicago Tribune* of July 28th publishes the following statement by Dr. Nicholas Senn, chief of the operating staff of the army at Santiago:

"SIBONEY, CUBA, July 17.—In the present war with Spain every one knew that our army would be exposed to an unusual extent to disease and the debilitating effect of the tropical climate of Cuba. The invasion of the province of Santiago meant certain exposure to yellow fever infection. The commanding General must have been aware of this. It is said the seafaring men along the coast of Cuba fear Santiago more than any other port. Yellow fever reigns there more or less throughout the entire year. At Siboney and Baiquiri it is known as 'hill-fever.' It appears that the precautions outlined by Colonel Greenleaf, Chief Surgeon of the army in the field, were entirely ignored by the commander of the invading force.

"I was more than astonished when I arrived at Siboney, on July 7th, to find that thousands of refugees from infected districts were permitted to enter the camps unmolested and mingle freely with our unsuspecting soldiers. All along the road from the base of operations to the line of intrenchments could be seen, at short intervals, scenes which were sure to bring about disastrous results. Our soldiers, in a strange land and among strange people, enjoyed at first the novelty and were free in buying the fruits of the land and exchanging coins, not knowing how dearly they would be called upon to pay for such a questionable privilege. Houses and huts in which yellow fever had raged were visited freely, and the dangerous germs of the disease were inhaled, as a matter of course. The results of such intimate association of our susceptible troops with the natives could be readily foreseen.

"It required only the usual time for the disease to make its appearance, and, when it did so, it was not in a single place, but all along the line from our intrenchments to Siboney.

"Dr. Guiteras, the yellow fever expert, recognized a few of the cases on the day of my arrival. He is extremely cautious, and will only make a positive diagnosis in cases in which albumin is exhibited in combination with the usual symptoms which accompany the disease. On the recommendation of Dr. Guiteras, our isolation-hospital was established a mile and a half from Siboney, and in less than three days it contained more than 100 yellow fever patients, among them General Duffield, of Michi-

gan, and Professor Victor C. Vaughan, of the University of Michigan.

"During my first visit to the front, I found 200 fever patients near the First Division Hospital, most of them under shelter-tents, others lying on the moist ground, with nothing but a wet blanket to protect them.

"The appearance of yellow fever cases in such a short time in such large numbers, and originating in so many different localities simultaneously, proved a source of surprise and alarm to the medical officers. They realized the danger and the necessity for the employment of most energetic measures, but this could not be done without a hearty co-operation on the part of the general in command. Major Lagarde applied to General Shafter for a detail of a company of infantry to aid him in fighting the disease. His request was promptly denied under the pretence that all of the troops available were needed more at the front than in the rear. This action left the major powerless in checking the extension of the disease. Fortunately, Major-General Miles arrived in the nick of time, and, with him, Colonel Greenleaf, Chief Surgeon of the army in the field.

"Colonel Greenleaf made the same request of General Shafter for troops to aid him in gaining control of the disease, but it was ignored as peremptorily as that of Major Lagarde. He now turned to General Miles, who placed at his disposal not only a battalion, but a whole regiment of colored troops.

"The work of sanitation was then taken earnestly in hand. At present there are about 800 cases of yellow fever here. Fortunately, the disease is of a mild type, the number of deaths being small. General Miles has done everything in his power to aid the medical officers in limiting and weeding out the disease."—*Phila. Med. Jour.*, Aug. 6, 1898.

The American Medical Press.

An editorial with this caption, in the August number of the *American Gynecological and Obstetrical Journal*, contains such views as we wish could be impressed upon the profession at large that we reproduce it here almost in its entirety:

The average busy practitioner—and even he who is not so blessed—rarely gives a thought to the medical press of this country, to what it is, to what it costs in effort and money, to the immense power for good which lies latent in it, and for the progress or deterioration of which he alone is directly responsible.

The medical press is what its subscribers

make it. It is a lever of mighty power—"a lever to move the world"—and its significance to the profession is whether the handle of this lever is controlled by the profession or whether the profession rests upon the short end and the long end is held in the hands of those who know its value and have so long exploited it. The value of the press to us—and who will deny its potential might?—lies in its control, its universal and absolute control, by ourselves, by medical men who are bound by professional obligations, by that common interest which binds us all, that remnant of medical ethical feeling which, notwithstanding the stupendous and blind selfishness of the individual practitioner, is still powerful enough to define our conduct, each to all and all to each, within certain fixed limits. Encourage with your support such a press, make it an accomplished fact by subscribing and *promptly paying your subscriptions*, and you need not doubt that the editors and *medical* proprietors will unite and act together for the common good. Medical editors know very well that a powerful press must be a united press and must equally represent a powerful and united body of men—*i. e.*, the profession; for if we editors had universal influence and our written words the convincing force of a Cicero or a Demosthenes, of what avail if the profession which we represented and for which we spoke remained disrupted, weak and incapable of self-government and the use of power? The profession and its press are indissolubly united for good or evil. Reform your press and it will in turn reform and unite you. Support and encourage medical proprietorship in your journalism—not by platonic good wishes, but by your *exclusive* patronage and by your money, and you will find the lever of a mighty press for use at your hand. Encourage, by your selfish indifference to everything which may benefit others as well as your individual self, journalistic proprietorship by lay publishing houses, and your medical press will continue, as it has hitherto done, to *use you*.

When this journal first entered the field, something more than six years ago, it was almost the only first-class journal owned and edited by a professional man in this country; to-day there are probably a dozen or more in this category. We doubt not that at least a majority of these medical proprietors and editors are actuated by singleness of purpose to work for the good of the profession, to create a great press, and that they are sustained by the hope that the profession will one day recognize practically the honesty of their purpose and

its self-sacrifice. Do you fancy that all these journals are supported by the profession? Does that fatuous thought, perchance, cross the mind of the subscriber who throws his bill aside, to be paid in a year or two? Does that contributor also believe this who sends his article to be published by some lay medical journal rather than by one owned by a medical man, not because the former is better or has a larger circulation (thank God, that excuse will not hold to-day), but because he thinks he can get a longer subscription credit and better terms for new medical books?

Remember this: If you wish this movement toward bringing the medical press under medical control to succeed, *you must not expect credit; you must pay your subscriptions in advance*. You must make up your mind to that sacrifice for the sake of the great good to be obtained. Medical proprietors have not large capital behind them; *you* must supply the capital to work with. After all, you are only expected to pay for what you receive, and we say, without a moment's hesitation, in the case of every journal for which you may have subscribed, you get your money's worth and more. If, on the other hand, you have no sympathy with the struggles of these medical men to give you a medical press which you yourselves shall own, and whose policy shall always be dictated by your interests; if you prefer your press to remain always merely a grab-bag from which you will have the privilege, as you wish, to draw out a more or less interesting original article or society proceeding, you can accomplish this end without exertion. It is only necessary to neglect to pay your subscription. You will force, in this gentle and easy manner, every medical proprietor out of the journalistic field, and you will hand over the medical press absolutely to the great lay publishing houses who do not expect you to support their journals, which are not published in your interests, but as advertising mediums for their other publications.

It is this uneven fight which we editors are fighting, and the question at stake is whether the profession, to which we belong and in whose interests we work, mean to aid us or to turn aside. After all, it is for you, the profession, not for us; for we venture to say there is not one medical proprietor in this country who could not earn more at his profession, with half the labor expended in journalism, than he could ever expect from the most generous support his subscribers could give him. The decision and the responsibility lie with you. It is easy (for the individual sacrifice is not

great) to create a great American Medical Press under medical control. It is easier still to place it back again, where for so many years it remained—on a plane of mediocrity and in the hands of lay publishing houses.

Painless Treatment of Carbuncles.

Dr. Sol. W. Rosenbaum describes (*N. Y. Med. Jour.*) various methods adopted for the treatment of carbuncles. Stimson, Parker, Beck, Gross, etc., regard incision as the only radical cure. A simple painless method of treatment, introduced by Dr. George H. Swinburne, "I have followed at the Good Samaritan Dispensary in over 200 cases, with uniformly good results—never having septicæmia or pyæmic sequela"—consists in injecting the following solution as an abortive in those cases which are soft and soggy:

R.—Glycerin	3j.
Salicylic acid	ʒv.
Borax	
Boracic acid	āā ðiiss—M.

Fold a piece of aseptic gauze until it forms a thickness of six to eight layers, the surface area to be somewhat larger than the carbuncle to be covered. The gauze is at first thoroughly saturated with Thiersch's solution, then covered with a layer of ten per cent. ointment of ichthyol, and then applied to the carbuncle. A piece of rubber protective large enough to overlap the gauze is now placed on the same to keep in the moisture. A layer of cotton is placed on the protective, and then the bandage is applied and allowed to stay on for two days. When the patient returns to be rebanded, and to have the dressings renewed, the cores are found to have separated from their respective walls, and at the next redressing, which is again in two days, they are found entirely separated, and can be easily and painlessly removed. At the next visit, granulation has passed the primary stage, and healing quickly results, leaving an almost invisible scar. The only constitutional treatment which I found necessary is to give cathartics, like fluid extract of cascara sagrada or castor oil, and, in individual, anemic, or cachectic cases, compound syrup of the hypophosphites.

With this simple, but very effective treatment, I have summarized the following advantages:

1. Painlessness (a great factor with many patients).
2. Quickness of healing, more so than with other methods.
3. No scar or cicatrix remaining—important when carbuncles are in visible parts.

I have treated a patient at our dispensary who had a carbuncle, situated on the median line of the back between the scapule, measuring in diameter four inches and seven-eighths; including the zone of inflammation, complete measurement reached up to seven inches. The patient was cured in five visits, coming every second day. Hardly any pain was suffered during treatment, and no cicatrix remains.—*Med. and Surg. Monitor*, July, 1898.

The Rational Treatment of Chronic Endometritis.

Dr. Augustin H. Goelet, of New York, presented a paper with this title to the Section in Gynecology of the American Medical Association at the Denver meeting, in which he declared that a positive cure of this condition was seldom or never attained by the ordinary methods adopted. Curettage, upon which so much reliance is placed as a means of cure in these cases, usually failed because too much is expected of it alone, and no attention is given to after-treatment. Curettage is to be regarded only as a preliminary, though a very important step in the treatment. It is very necessary in many cases to inspect the endometrium through an especially constructed uterine speculum to ascertain its actual condition before the operation, and again afterwards to see if the work has been done properly. This is the only way curettage can be made successful.

He discountenanced the effort to remove the entire endometrium with the sharp curette down to the muscular structure. It is only necessary to remove what is diseased, and that being softened from inflammatory action, can be removed with the semi-sharp instrument, having a rigid shaft, and without using undue force.

Especial stress was laid upon the importance of maintaining thorough drainage and cleanliness in the after-treatment. Upon a strict observance of these two points the result must depend. Both should be maintained until a normal endometrium has been reproduced. The futility of neglecting such treatment of a secreting cavity, he thought, was only too obvious to any rational mind.

Cauterization of the endometrium, which, it was regretted, was still practiced by some men, and the after-mismanagement of these cases by neglect of proper drainage, was designated a relic of barbarism.

A cure of this condition, the author declared, was perfectly easy if the uterine cavity received the same careful management that is given to diseased cavities in other parts of the body.

Why the inflamed uterus should be so fright-

fully misused he could not conceive. The chief reason, he thought, was because the treatment of these cases is considered simple, and it is undertaken by men who are too grossly incompetent to understand or cope with the condition. Many hopelessly invalid women is the result.

Methylene Blue in Malarial Fever.

The Berlin correspondent of the London *Lancet*, February 26, 1898, tells us that Dr. Cardamatis, of Athens, inspired by researches of Professors Ehrlich, of Berlin, and Boinot, of Paris, has successfully used methylene blue in the treatment of malarial fever. In his report (*Deutsche Medicinische Wochenschrift*), he publishes 275 cases where the drug was administered. The dose was from ten to twelve grains ("Gran") for adults, eight grains for younger patients, six grains for children, and one or two grains for infants at the breast. In typical intermittent fever, the drug is given ten hours before the beginning of the paroxysm; in remittent or continuous fever, eight hours before the remission. When both methylene blue and quinine failed, a combination of the two drugs proved useful, but the effect was less marked when the methylene blue was associated with arsenic. The combined treatment was necessary in only thirty of the 275 cases. In quotidian *ague*, when the patients had become free from fever, after five days' administration, the drug was given for six days. A pause of two days followed, after which it was again given for four days; after a second pause of eight days there was a final administration spread over two days. After twenty-two days a radical cure was obtained. When attacks appeared again after the fifth day, treatment was continued for forty-eight days with several interruptions. In tertian and quartan *ague*, the first stage of the treatment lasted twelve days, and the remedy was given for sixty days with several carefully arranged intervals.

The advantages of methylene blue were especially obvious in those cases where quinine had proved useless or where there was intolerance of it. The drawbacks are the staining of the tongue and the lips; a slight amount of cystitis was also sometimes observed, but these inconveniences are very slight in comparison with the radical cure obtained in nearly every case.

Immunization seemed to be produced by the treatment, for although the convalescents continued to reside in the malarial districts, very few of them indeed were subsequently attacked. With the exception of the cystitis already

mentioned, no toxic symptoms were ever observed. In eighteen instances, the fever disappeared after the first day, in thirty-six after the third, in eighty-four after the sixth, in eighty-eight after the tenth, in eighteen after the eleventh, and in thirteen after the twelfth day. In eighteen cases no cure was obtained. In thirty-eight out of the 275 cases a relapse occurred after two months.

Suppression of Urine After Employment of Salt Solution.

In the Transactions of the Woman's Hospital Society, New York, April 19, 1898, Dr. Jno. F. Erdmann reported (*Amer. Gynecol. and Obstet. Jour.*, Aug., 1898), three or four cases, in which suppression of urine followed the employment of injections of large quantities of [normal?] salt solution. This result followed in cases of gunshot wound of the intestines, in which transfusion was done. He has thought perhaps that this urinary suppression was due to the saline injections. In each case, the patient was alcoholic, and this latter fact may have had something to do with the retention or suppression.

Dr. Clement Cleveland suggested that perhaps the urinary retention [suppression] was due to the overloading of the circulation with the salt solution.

Dr. Henry Moffat stated that it seemed to him that it was much more probable that the retention [suppression] was due to shock.

Anatomy of the Anus.

Bert. B. Stroud notes that (1) the anus is similarly formed among all the mammalia but is most highly developed in man.

(2) The pecten contains the peripheral ends of nerves concerned with a special "rectal sense," and from its dentations (in some people) spring papillæ composed of stratified epithelium, nerve elements, and a small amount of connective tissue. Those people who possess such papillæ seem physiologically superior to those who do not.

(3) Just cephalo-peripherad of the pecten of some persons are developed more or less extensive anal pockets, which, though not pathologic, may be torn by hard feces, causing lacerations of the pecten, which may ulcerate by continued irritation, or a fistula or perforation of its floor may result on hard feces lodging in these pockets.

(4) Rectal reflexes may be due to pressure either on the nerve elements by congested blood vessels, or on irritated papillæ by spasm of the sphincter, and though they are often in-

jected with serum, there is no evidence of sclerosis in irritated papillæ.

(5) The nerve supply of the rectum and anus is derived from both the central and the sympathetic nervous systems, and consists of (a) small nerve cells with anastomosing dendrites, forming the epidermal plexus. (b) Large ganglion cells in the dermis and amyelinic nerve fibres.

(6) There are but few sensory nerve elements in the rectal mucosa whose caudal border is at the linea dentata, where the character of the epithelium changes markedly and the mucosa is thrown into folds like a ruffle.

(7) The incontinence of feces that follows operations for hæmorrhoid is due to the excision of the pecten which forms the central part of the floor of the rectal ampulla, when the sphincters are closed.—*Canad. Pract.—Indian Med. Jour.*, July 1.

Book Notices.

Medical and Surgical Report of the Presbyterian Hospital in the City of New York. Volume III. January, 1898. Edited by ANDREW J. McCOSH, M. D., and WALTER B. JAMES, M. D. Trow Directory Printing and Bookbinding Co., New York. Board-back. 8vo. Pp. 414—xvi.

There is so much of real value in this volume of Reports that one knows not what to select for notice, lest in pleasing his own inclination he should omit reference to that which is more important to another. There are twenty-eight articles in the volume—each of which would make valuable chapters if collected with reference to the subject matter of the book. We can only give a condensed statement of the contents—leaving it to the reader to secure the article from the author: Dr. Wm. H. Draper writes on *Some Collateral Functions of a Hospital*; Dr. M. Allen Starr, on an *Unusual Case of Recurrent Multiple Neuritis of Uncertain Causation, with Paralysis of the Phrenic Nerve—Recovery*; Dr. J. S. Thacher, on *Hydrochloric-Acid Determinations in Gastric Contents*; also, *Case Showing Extreme Leukæmic or Lymphoid Infiltration of Viscera*; Dr. Charles K. Briddon, on *Surgery of Pelvis of Kidney*; also, *Cases of Operation Upon Gall Bladder and Bile-Ducts*; also, *Inter-muscular Operations for Appendicitis, with Application of Method to Pus Cases*; also, *Two Cases of Amputation Through Hip-joint*; Drs. Walter B. James and George A. Tuttle, on *Study of Bacteriology of Blood in Diseases*; Dr. Walter

B. James, on *Study of Malignant Endocarditis Caused by Micrococcus Lanceolatus*; Dr. George A. Tuttle, on *Experience with Widal's Test for Typhoid Fever*; also, *Cases of Pancreatic Hemorrhage, Pancreatitis with Fat necrosis and Retro-peritoneal Suppuration of Unknown Origin*; Dr. W. Gilman Thompson, on *Unusual Complications of Typhoid Fever*; also, *Rare Case of Septicæmia—Diffuse Suppuration of Chest-Walls*; Dr. George Thomas Jackson, on *Two Dermatological Cases Complicating Cardiac Disease*; Drs. Fred. P. Solley and Herbert S. Carter, on *Malarial Fevers of New York City*; Dr. Fred. P. Solley, on *Diphtheritic Colitis of Corrosive Sublimite Poisoning*; Dr. Ellsworth Eliot, Jr., on *Three Unusual Cases of Appendicitis*; Dr. Andrew H. Smith, on *Case of Persistent Hicough Yielding to Applications of Ice Over Diaphragm and Back of the Neck*; Dr. Wm. N. Berkeley, on *Study of Cases of Enlargement of Thyroid Gland, with Special Reference to Their Histology*; also, *Congenital Tumor of Hard-Palate*; Dr. Edwin S. Steese, on *Fifteen Cases of Abscess of Brain*; also, *Combination Stain for Ganglion Cells*; Dr. Forbes Hawkes, on *Forty-One Hysterectomies Performed During Two Years in the Hospital*; Dr. W. P. Northrup, on *Tuberculin Test for Presence of Tuberculosis*; Dr. Ernest C. Schultz, on *Twenty-seven Cases of Pneumonia Following Inhalation of Ether and Chloroform*; Dr. Leonard C. Sanford, on *Two Cases of Intestinal Resection*; Dr. Andrew J. McCosh, on *Surgical Treatment of Epilepsy, with Report of Fourteen Cases*. We suppose most of the authors have reprints of their articles; and as we do not see that the volume is for sale, the only way we can suggest to our patrons to get the papers in which they may feel specially interested, is for them to write to the respective authors.

Manual of Modern Surgery—General and Operative. By JOHN CHALMERS DA COSTA, M. D., Clinical Professor of Surgery, Jefferson Medical College, Philadelphia, etc. With 386 Illustrations. Philadelphia: W. B. Saunders. 1898. 8vo. Pp. 911. Cloth, \$4 net; half-Morocco, \$5 net.

Although not so stated on the title page, this is the second edition of the work issued in 1894. Perhaps this omission from the title is made because of the fact that the present book has been practically rewritten, as to what was in the first edition, and very many new chapters have been introduced. In the effort of the author to make a book that may stand between the college text-book and the compend, he has made a signal success; so that it is in reality the book for practitioners who seek the most approved methods and greatest detail of

description as to how to operate. The profusion of excellent illustrations supplies the places which words of description could not make so plain. Questions of pathology and pathogenesis, diagnosis, symptomatology, etc., are, as a rule, dealt with only so far as they help in the recognition of the condition which requires operation or some surgical procedure. While the author throughout is quite faithful in giving credits, he never intended his book to be filled up with bibliography that is useless at the bedside. The great purpose is to point out what to do under given circumstances and how to do it. For the purposes of the general practitioner who has to do his own surgery, as also for the one who limits himself to surgery, no one volume that we are acquainted with surpasses this book—if, indeed, any such work merits so much of favor.

Fatty Ills and Their Masquerades. By EPHRAIM CUTTER, LL. D., M. D., and JOHN ASHBURTON CUTTER, B. Sc., M. D., Corroborator. Equitable Building. New York. The Authors. 1898. Cloth. Long 12mo. Pp. xiv+194. \$1. (For sale by the Authors).

This book is dedicated to a number of able men in the profession. It is a "contribution to clinical medicine for practitioners and students, to emphasize the inestimable value of the microscope in detecting the pre stages of amaurosis, angina pectoris, apoplexy, Bright's disease, cataract, dementia, fatty heart, gallstones, glaucoma, hæmatophilia, locomotor ataxia, etc., and the like value of American means of treatment in these pre stages, and in those advanced states usually considered incurable." It may be that Dr. Cutter takes an extreme view as to some diseases which he believes are due to fatty degeneration; but, even if he does, the doctrines advocated are productive of no injury—indeed, they are worthy of scientific consideration. Cases upon cases are cited to show the effects of fatty degeneration upon health, and how they may be averted and even cured. There is no abler microscopist anywhere to be found than Dr. Cutter; and when it is remembered that he has been the great leader in the study of the effects of various diets in disease, then it will be understood that the author speaks "as one with authority." There is not a page in the book that is not suggestive and profitable reading. We would advise all our readers who can spare the means to get this book and learn from its pages many valuable lessons that he can carry into practice in the sick room.

Manual of General Pathology for Students and Practitioners. By WALTER SYDNEY LAZARUS-BARLOW, B. A., B. C., M. D., M. R. C. P., Late Demonstrator of Pathology and Examiner in Sanitary Science in University of Cambridge, etc. Philadelphia: P. Blakiston, Son & Co., 1898. Cloth. Svo. Pp. 795-xi. \$5, net.

This is a work of great value to the general practitioner. It steers between the heavy dull detail of pathological anatomy and theoretic discussion of general pathology in such a way as to give to each chapter a special interest—affording accurate information in a most attractive manner, which makes it easy to retain and recall from memory on need. It would be hard to give an outline of the book, for it deals especially with those very points of importance and interest relating to morbid physiology which are too much omitted in textbooks on Practice, and those points of morbid anatomy, etc., which textbooks on Pathology too much remit to the pages of other works. It is the book also for the teacher, which presents to him familiar facts in new dress and thus allows him to present his subject in a new light—always in the most attractive manner. This book carries us back to the days of Professor John Staige Davis, of the University of Virginia, who was about the only man we ever heard lecture on anatomy who could give to each lecture such interest as would impress every otherwise dry detail of dissection upon the memory of his class. So it is with this book—as if, without effort of diction, each fact of importance is told in such manner as to make the doctor feel almost that he has known that fact all along, where, in reality, it is all new to him. Chapter X, on "The Pathology of Heat Regulation," is about the clearest statement of facts that we have seen anywhere. The same may be said of the chapter on "The Pathology of Infections," and other chapters.

Atlas of Methods of Clinical Investigation, with an Epitome of Clinical Diagnosis, and of Special Pathology and Treatment of Internal Diseases. By Dr. CHRISTFRIED JAKOB, formerly First Assistant in the Medical Clinic at Erlangen. Authorized Translation from the German. Edited by AUGUSTUS A. ESHNER, M. D., Professor of Clinical Medicine in Philadelphia Polyclinic, etc. With 182 Colored Illustrations upon 68 Plates, and 64 Illustrations in the Text. Philadelphia: W. B. Saunders. 1898. Cloth. Pp. 259 of text. Price, \$3.

It is simply wonderful how graphic these *Atlases* are made. Opposite each of the sixty-eight plates, showing in detailed outline the organs or parts affected, is a page of descriptive

text—in addition to the appended 259 pages of text that describes the diseases illustrated. It was easy to understand how surface diseases could be illustrated, and how surgical procedures could be brought out in drawings. But until this most valuable *Atlas of Methods of Clinical Investigation of Internal Diseases* came under notice, we had not supposed that many of the internal diseases could be so well illustrated in print. This *Atlas* is of special importance to the every-day doctor, who seeks to make accurate diagnosis, and is of incalculable value to the teacher and post-graduate student of medicine. The book itself is well arranged, with a thorough index appended. Twenty-two of the plates are taken up with *Clinical Microscopy and Chemic Color-Reactions*. The other colored plates show the *Normal Projection of the Viscera and Percutary Topography*; the *Schemata of Diseases of Lungs and Heart*; and a *Diagrammatic Representation of Abdominal Diseases*. Numerous wood cut drawings are used in the text part of the book wherever they appear to be required.

Compend of Diseases of the Skin By JAY F. SCHAMBERG, A. B., M. D., Associate in Skin Diseases, Philadelphia Polyclinic; Dermatologist to the Union Mission Hospital, etc. With 99 Illustrations. Philadelphia: P. Blakiston's Son & Co. 1898. Cloth. 12mo. Pp. 307. Price, 80 cents net. Interleaved for taking notes, \$1.25 net.

This is No. 16 of Blakiston's Quiz Compend, which have become so popular with students attending lectures, etc. This special *Compend* is one of the best of the series. It contains information condensed from many authors, and thus presents facts no where else to be found in one book. While thoroughly concise, each page is readable and clearly states the points to be remembered. Thus it avoids the synoptical style which a year or two ago became popular with some authors, but which synopses needed the lecturer to explain. The interleaved edition is the one needed by the college student in order that he may keep notes of the amplification of the subject in hand by the professor or lecturer. The illustrations are well selected and in general well represent the phase of the disease attempted to be delineated.

The Johns Hopkins Reports—Report on Gynecology. Paper. Large 8vo. Pp. 136.

This publication is Nos. 1 and 2 of Volume VII, now in progress. It contains two excellent papers—I. *A Critical Review of Seventeen Hundred Cases of Abdominal Section from the*

Standpoint of Intraperitoneal Drainage, by J. G. Clark, M. D., Resident Gynecologist in the Johns Hopkins Hospital, Baltimore. The object of this paper is to prove "that not only is drainage valueless in the great majority of cases in which it has hitherto been used, and is still used by some surgeons and gynecologists, but that it is frequently productive of harm." II. *The Etiology and Structure of Free Vaginal Cysts*, by James Ernest Stokes, M. D., Assistant Resident Gynecologist, Johns Hopkins Hospital. It is a paper of practical value and merit, but we have to regret that the "Recapitulation" is too lengthy for reproduction here.

Editorial.

Preliminary Fall Session of the University College of Medicine, Richmond, Va.

The advantages that Richmond holds forth to those seeking a medical education have been told so often that it is almost a work of supererogation to repeat them, and yet a good story is ever worth repetition.

Up to a few years ago, most Southern students made their way to Baltimore, Philadelphia, and New York, in pursuit of a medical education, some few going to the Western schools. Last year, Richmond detained in her hospitable walls at least 500, and the outlook for the coming session is even brighter in its prospects.

Recognizing the fact that some students, for one reason or another, were unable to take the various branches, and wishing to hold out to these a chance for keeping abreast with their fellows, the Adjunct Faculty of the University College of Medicine decided to hold a preliminary fall, instead of a spring session as heretofore, which, following close upon the heels of the regular course, found the students eager for a well earned rest.

The advantages of the change are many, the chief being that it takes the student right up to the regular course and its preliminary examinations, avoiding that shock consequent upon the abrupt transition from complete rest to hard mental work.

The advertisement of this course appears elsewhere.

Medical Society of Virginia.

The Program of the Twenty-Ninth Annual Session, to be held at Virginia Beach, Va., August 30, 31, and September 1st, 1898, has re-

cently been issued. We do not recall that any State Society Program ever presented such a full array of distinguished visitors and authors. Thirty-nine papers are on the Program, and the number of applicants for Fellowship is larger than it has ever been so far in advance of the session. The promised attendance is also unusually large. All of this reflects special credit upon the untiring energy and activity of the most excellent President, Dr. Lewis E. Harvie, of Danville, Va., who, during the year nearly ended, has allowed no opportunity to escape him to advance the interests of this Society and of the profession of the State.

Since the issue a week ago of the Program further information has been received by the Secretary, which enables him to give a few more details.

In the first place, a round trip rate of *four dollars* has been granted by the steamboat line from Washington city to Norfolk, Va., on the certificate plan. The doctor, or the candidate for examination by the Virginia State Board of Medical Examiners, etc., should state in advance to the ticket agent his destination (Virginia Beach). Ladies accompanying the doctors, etc., are entitled to the same rates.

The Chesapeake & Ohio Railway has agreed to a less rate than four cents round-trip mile, through to Virginia Beach, Va., where tickets are sold on special order, which special orders, we are informed, will be placed in the hands of the Secretary (Dr. Landon B. Edwards, of Richmond, Va.) for distribution to doctors, etc., who may apply for them.

The round trip ticket from Norfolk, Va., to Virginia Beach will be only 50 cts., instead of \$1, as stated in the Program.

"The Princess Anne" will conform to a uniform board charge of \$2 a day, instead of \$2 and \$2.50. It is promised that special attention will be shown on this occasion to guests.

The sessions of the Society, those of the Virginia State Board of Examiners, as also the Exhibition Space, Committee-rooms, etc., will all be in the Inverness Inn—about a half mile down the Board Walk from "The Princess Anne."

To authors contemplating long papers, we would call special attention to the resolution adopted at the session of 1897, which in effect says: "Papers, however full or lengthy, for publication in the *Transactions*, etc., shall be limited to twenty minutes in their reading; in their discussion, not more than five minutes shall be allowed each debater; and no speaker shall be allowed to speak more than once on

the same subject." *This is very important to be remembered*, for otherwise there would be difficulty in allowing an opportunity to each author of a paper to get time to present the one prepared for this session.

Another important resolution adopted in 1897 was that which allows only one hour of each session to be taken up with business matters. "Any business, however important, not transacted in the hour allotted, must be laid over until the next business hour, so as not to interfere with the scientific work of the Society."

All business matters that can be taken out of the Society shall be transacted by the Business Committee, whose further duty it shall be to put such business in shape to be acted on promptly by the Society.

The Diphtheria Antitoxin Patent Contest.

Although Prof. Behring seems to have secured patent rights in the United States, it is by no means settled that his claim will be sustained. Messrs. Parke, Davis & Co., of Detroit, Mich., who have so often been leaders in many good things for professional and humanitarian interests, announce that they have entered the courts to resist the patent claim of Behring, and generously announce if they succeed, as in all probability they will, no restriction will be laid upon the production of good diphtheria antitoxin by any worthy house. They further authorize the statement that they will hold themselves pecuniarily responsible for any recovery suits that the Behring lawyers may bring against druggists or doctors who may use the reliable Antitoxin of their manufacture.

Just as we go to press the Mulford Company also announce that they have retained eminent counsel, who assure that firm that the Behring claim is unjust and untrue, and that they believe that the patent right will be taken from him by the U. S. Supreme Court.

So confident are the eminent lawyers engaged by these two leading houses that Behring's claim will be upset, that they think it thoroughly safe for their clients to make the offer to protect whoever may continue the use of the Antitoxin produced by either of the firms named. It is certain that it is by no means the experience of practitioners who have used the products of different houses that the product professing to come from the Behring laboratories has shown itself superior, or even the equal in curative value to the diphtheria antitoxin sent out by either Messrs. Parke, Davis & Co. or the Mulford Co.

So that, in this section where the product of

Messrs. Parke, Davis & Co. is so popular, and their agencies are kept constantly supplied with reliable, fresh diphtheria antitoxin, the doctor need not hesitate to order the best preparation, nor need the druggist hesitate to retain the agency—seeing that this able firm stands between them and danger of loss. The Mulford Co. does likewise.

Virginia State Board of Medical Examiners' Report.

In our issue for July 22, is given the full text of questions asked of candidates for examination for license to practice medicine and surgery in Virginia; in this issue we give the list of successful candidates, etc. While rejoicing with those who were successful, and can, thereby, enter the brotherhood of the profession, we sympathize sincerely with those graduates whose tested qualifications were not sufficient to pass satisfactory examinations.

It has come to our hearing unofficially that there was some "kicking," when the questions on Practice of Medicine were put up. We refer our readers to the questions given on page 234, in full confidence that they will agree with us that they are fair ones. It is stated that special complaint was made to "Ques. IV. Give the peculiar symptoms of typhoid fever in a child under ten years of age." It is singular that *graduates in medicine* had not heard of the peculiar symptoms of this disease in children when Professors generally must have called attention to them when speaking of the disease. According to the best of authorities typhoid fever is common in children—often called "infantile remittent fever." Its peculiarities are that the fever generally rises more rapidly than in adults, its remittent type is more marked, and termination by crisis is more common. Epistaxis is rare, as is also intestinal hemorrhage and perforation. Due to the lack of development or maturity of Peyers' patches in young children, perhaps, intestinal symptoms and right iliac tenderness are slight, if not altogether wanting. Even the typhoid spots or eruption on the abdomen are frequently wanting or very slight. While the pulse is more rapid, it is not so dicrotic. Convulsions sometimes mark the onset, and stupor or delirium are more marked. Bronchitis frequently complicates the case. The expectant plan of treatment shows that the mortality is very small. We have not recalled this train of symptoms in cases of children's typhoid fever to instruct those who have had material experience with the disease; but simply to impress upon the graduate in medi-

cine that there are generally very marked differences between typhoid of the adult and of the child under 9 or 10 years of age. And the very question itself that was asked may furnish a valuable lesson to the graduate about to engage in practice.

Why there should have been "kicking" about the third question, we cannot understand, for "false croup," "stridulous croup," "spasmodic croup," "acute laryngitis in children"—in short, "catarrhal spasm of the larynx"—is one of the commonest of children's afflictions, and common enough in adolescence to compel it to impress itself upon the memory of every doctor. The doctor who cannot ordinarily recognize it ought to be heavily discounted in any rating of his standard. Furthermore, it was one of the questions that the examiner permitted to be omitted if the applicant preferred to substitute another question for this. The fact is, the questions were too practical for the mere schoolboy to understand. And yet the examinations were all held to test the knowledge of parties to become *practitioners* in Virginia.

We have not been able to learn who were "the kickers," as the term is used. We cannot suppose they were *graduates*, for complaint against such questions would be a reflection upon the colleges that gave them diplomas as parties qualified to enter upon practice. Such complaints must have come from under-graduates who had "crammed" the text-books on such subjects as they hoped would be asked about. It is not the province of the Virginia State Board of Medical Examiners to be examining medical students to test their ability to graduate, but to inquire into the proficiency of candidates to see whether or not they can be safely entrusted with the care of the sick—as to diagnosis, treatment, etc.—to see if they are qualified to become practitioners.

Just here, we may remark that, in our opinion, the Virginia Board made a serious mistake in directing that one of the semi-annual examinations shall be held each January in the city of Richmond. It is easy enough to foresee what the result will be. It should be remembered that in January, there will probably be in the University College of Medicine and the Medical College of Virginia—both in this city—between 500 and 600 medical students. The fee of \$10 for examination by the Board, once paid, will not have to be paid again. These students have not a proper appreciation of the objects of the Board—it is not reasonable to suppose that they have. They look upon the examination by the Board as a

sort of incubus—never stopping to think of the true purposes of the law establishing the Board. These medical students feel that they have nothing to lose—even if they fail; and they all hope that by some fortunate turn of the lottery wheel they may secure the prize.

What will be the natural result? The Colleges will be in a state of disruption—so far as the classes are concerned. No authority of the Faculties can keep their students away from the Board examinations. The consequence will be that the Board will be overrun by applicants for examination. There can scarcely be found in the city a room large enough to hold the separate desks necessary for each applicant for examination, and the Examiners themselves will have to carry home with them immense bundles of worthless papers which they are to examine and size up. If it has taken six weeks or more to mark the papers of the June session of the Board, how indefinitely longer will it require to examine the greater mass of manuscripts! For an examining session of the Board to be in this city while the Medical Colleges are in session, will furnish a temptation to the 600 undergraduates which they cannot resist.

It is not too late for the Board to correct the error into which it has fallen. If they insist upon a session in January, let it be held in some far away place, as in Abingdon, or Wytheville, etc. Graduates can as well assemble there during the winter as here in Richmond or in Charlottesville. Such an appointment would minimize the number of non-graduate applicants for examination. An executive session of the Board will be held at Virginia Beach, August 29th, when this subject can be reconsidered, and a better decision arrived at.

The Code of Virginia is defective in permitting non-graduates to appear before the Board for examination. The remedy, however, lies with the Legislature only. And as that body does not assemble again until December, 1899, it would be a waste of effort to present at this early day the reasons why the law should be amended.

Virginia State Board of Health.

The Secretary of the Virginia State Board of Health, Dr. Paulus A. Irving, Richmond, Va., authorizes us to state that the third quarterly session of the year will be held at Virginia Beach, Va., September 1st, 1898. Parties having matters to be considered during the session should at once formulate their papers so as to be considered in due form. Dr. Rawley W. Martin, Lynchburg, Va., President.

The Water Supply of Cities.

The long rainy season which has been causing the rivers to overflow and seriously affected the water supply of cities supplied by them, again calls up the subject as to how to cleanse water intended for drinking purposes. We find that "Baltimore (*Md. Med. Jour.*, Aug. 6,) is having a hard time in the endeavor to supply its citizens with good drinking water. The ignorance displayed by the city fathers about the condition of the water is lamentable." The same remark is just now applicable to the City Council of Richmond, whose reservoirs are supplied by the raging James. As the result of the heavy rains, the water is as muddy as that in a recently stirred up mud-puddle, laden with all sorts of organic matter washed down from pasture fields and flooded barn and privy drains. And this is the water that Richmond citizens are called upon to drink! Fortunately, the well-to-do class of citizens have in Fonticello Lithia Springs water, which is two or three times a day brought in fresh from the Springs, a most palatable and excellent table water, which possesses also decided properties of a therapeutic character in flushing out the kidneys, etc. But this water is too expensive for the great mass of citizens; so that from a practical standpoint the great majority of people are thrown back upon the use of the James River water for drinking purposes. Such water is discreditable to a city of the size and pretensions of Richmond, and it is not unreasonable to suppose that diseases will be common this fall and winter which may be clearly traceable to the drinking water supply.

Among the plans suggested by some in authority, we regret to see that one recommends that an extra basin be dug near the reservoir. The idea is that a sufficient quantity of this muddy water, to furnish several days' supply to the city, be allowed to fill the reservoirs. The plan is, that the water in these reservoirs be allowed to stand and settle. It is said that it will require fifteen or sixteen days of "settling" to get the water clear enough to be presentable for drinking purposes. All sorts of micro-organisms are apt to develop in this stagnant water, so that the water for drinking purposes would be even more serious in its effects than if the River water was taken just as it is at present. The reservoir basins would be full only of this River water, exposed to a high temperature of the dog days sunshine; and there is no telling what would be the consequences upon the health of Richmond. The "settling" idea, as proposed, would almost

surely result in harm to the citizens of the place.

Another, and a far better plan, would be to filter the water before it is pumped up into the supplying basin. It is also a cheaper plan for the city to adopt. While we do not claim that this filtration of drinking water robs it of germinal micro-organisms, we do claim that such filtration minimizes the risk.

Something ought to be done to give a pure drinking water to the city. If the city fathers do not promptly attend to this "long felt want," the responsibility for much bad health and, probably, a goodly increase of mortality, must fall back on them. The people are clamorous for a better water supply. Let no stone be left untouched until this much to be desired end is secured. Filtration is cheaper and renders the water safer for drinking purposes than is the stagnating water in so-called "settling" basins.

The Spanish-American War is Over.

That the United States Army and Navy have done their work well, stands out in plain relief. That the medical department of the navy has well done its full duty seems conceded. But what of the medical department of the army? "As a matter of fact," according to the *Scientific American*, "our troops had to go through the fierce fighting at Santiago in a half-starved condition, and what food they secured was often of the vilest description." This complaint, of course, reflects on the subsistence department. But "the wounded at the front had to drag themselves painfully many miles to the rear, only to find a hospital that was without tents, medicine, bandages, ice, and many of even the simplest necessities for first aid. No 'whitewash' can obscure these facts, which first came in press dispatches, and are now daily being corroborated by private letters from our unfortunate soldiers themselves."

When we recall the length of time after the declaration of war before the army was called into active service at Santiago; that the greater part of the army engaged in that battle were "regulars;" that those of the volunteer regiments engaged were considered to be the best equipped and most ready for the campaign; that the American people had been unstinted in their contributions of money to provide for every necessity of the soldiers; that there were vessels in abundance to do freight service from almost every port along the Atlantic coast; that the resources of this country were ample to supply every needed article and man, etc., it does seem that some one in authority was

censurable for either incompetency, ignorance of duty, indifferences as to the health or suffering of lives of men battling for their country's good name, or else was biased in his assignments to duty of men as thoroughly incompetent or indifferent by low political motives.

To attribute the most unselfish and patriotic motives to the Secretary of War, when we look at other provisions ordered by him, one is forced to think of him as simply an "old granny," unfit for the high office he holds, unless it be only in times of serene peace. As the *Scientific American* further says:

"Our army triumphed; but in the hour of victory the dread fever made its appearance, spreading so rapidly that the victims were soon numbered by the thousand. The first duty of the Secretary of War, one would have thought, was to place the army, or the greater part of it, on transports and remove it to its native Northern home. But no. The political demands of the hour had other calls upon the transports, to satisfy which, they were hurried home in order to carry an army of 15,000 men to a so-called invasion of Porto Rico. This pleasure trip was organized, it seems, in compliance with certain political demands, the righteousness of which appears to have commended them to the Secretary's good military judgment. Meanwhile the sick, wounded and dying troops were to be dispatched to the interior of Cuba until the conclusion of the Porto Rico junketing trip would set free the transports to bring home what was left of the Santiago army."

Cervera's fleet had then been destroyed, and there was no possibility for succor to come from Spain to Porto Rico while Schley's and Sampson's fleets had then no other duty to perform other than maintain the blockade of the island. There was no need for precipitate haste to capture Porto Rico until aid and comfort could have been afforded the brave soldiers who were suffering for even the necessities and comforts of life, had been fully provided.

The *Scientific American* further aptly says: "The demand of the American people at such a time is that its high officials shall be distinguished by the purest and most unquestioned patriotism. It has nothing but scathing rebuke for such questionable politics as are evidenced in the recent publication of the partial contents of a private letter, in the hope of working political injury to a soldier citizen whose splendid qualities have endeared him to the nation."

American Electro-Therapeutic Association.

The Eighth Annual Meeting will be held September 13th, 14th and 15th, 1898, at Buffalo, N. Y., in the rooms of the Society of Natural Sciences, Public Library, Lafayette Square. A programme of exceptional interest is assured; there will be an exhibition of electric apparatus for diagnostic, therapeutic and radiographic work. Hotel Iroquois will be headquarters; \$4.00 to \$5.00 per day, American plan; \$1.50 to \$3.00, European plan. There will be Tally-ho coach drives about the city daily, a public reception on Tuesday night, excursion down Niagara River and reception at Island Club, Grand Island, and other receptions, visits to industries of interest. Extra efforts are being put forth to make this, in every way, the best meeting that has been held; therefore, doctors are particularly requested to attend. Dr. Ernest Wende, 471 Delaware Avenue, Buffalo, N. Y., Chairman Committee of Arrangements; Dr. Charles R. Dickson, *President*; Dr. John Gerin, *Secretary*, 68 North street, Auburn, N. Y.

Revision of the U. S. Pharmacopœia, 1900.

The *Medical News* calls attention to the fact that the Eighth Decennial Convention to direct the revision of the U. S. Pharmacopœia will convene in Washington, D. C., in May, 1900. All Medical Colleges and State Medical Societies will be invited to send delegates.

It is rather to the discredit of the medical profession that the pharmaceutical delegates to the Convention of 1890 outnumbered the medical, whereas the Pharmacopœia was originated by and for some years revised entirely under the direction of the medical profession. A very noticeable feature in the Convention of 1890 was the large number of pharmaceutical societies represented by delegates in contrast to the comparatively small number of medical societies so represented. The colleges of medicine were only fairly represented, being exceeded by colleges of pharmacy.

The advantage of a large pharmaceutical influence in the revision of the book is apparent in the great improvements made in the last two editions; but, in view of the tendency to delegate its issue more and more to the pharmacist, it may be proper now to remind the medical profession that it is a book that we cannot afford to neglect.

The Medical Society of the State of New York, through a committee on United States Pharmacopœia, is doing work along needed lines, and it is hoped that other State Societies will follow its example. In the first annual

report of this committee, several items were presented for discussion during the year.

Among them we note the following: "That a section (of the Pharmacopœia) be devoted to giving reliable information concerning new remedies, without making them, in any sense, official; and that an annual supplement be issued for the purpose of continuing the same kind of information."

The Committee of Revision of the Pharmacopœia, with an extension of its powers, would be just the body to direct the research necessary to furnish information concerning new remedies, which need not thereby be made in any sense "official." Indeed, in case of certain substances, the information might be condemnatory. If the committee were to issue a small annual supplement of that character, it would, in our opinion, lead to a speedy recognition by many more physicians of the place and value of the Pharmacopœia.

Good Location for a Good Doctor For Sale or Rent.

A Fellow of the Medical Society of Virginia, and a most worthy physician, has to remove to his former home in another part of the State to take care of family interests. He has the exclusive practice in a compact territory of about 3,500 people. The country is a low tide-water section and healthy. Fish and oysters and the products of lucrative truck farms keep up the industries the year round. Expenses light. Practice income from \$1,500 to \$2,000 a year. The Doctor will sell or rent to a good doctor. Inquiries addressed to Guinea, care *Virginia Medical Semi-Monthly*, Richmond, Va., will receive prompt attention.

This is an excellent opportunity for a steady, attentive young doctor to secure a good location at once.

Medical Provision for Families of Soldiers in Toledo, Ohio.

The Toledo Medical Association offer gratuitous medical services to those members of soldiers' families who are dependent on them for support, and *who are unable to pay for medical aid*. The citizen's relief committee determines as to the fitness of the applicant for such services, and, having a list of the physicians in the Society, will assign one or more to attend. As yet this method has not been tested by trial, and may prove that more careful supervision than the relief committee can give may be necessary.

Rare Conditions Found in the Negro.

According to the experience and observation of Dr. B. Merrill Ricketts, of Cincinnati, Ohio, the following conditions have been rarely found in the negro. Should any of these be found in that race, he requests information on the point—always being careful to state whether the subject or subjects were pure negro or partially mixed race. These troubles are often enough seen in the mulatto and those more nearly white.

1. Chorea.
2. Gall-stones.
3. Kidney stone.
4. Urethral stone or gravel.
5. Urinary bladder stone.
6. Locomotor ataxia.
7. Club foot (not paretic).
8. Lupus.
9. Epithelioma of the face.
10. Varicosity of scrotum.
11. Varicosity of legs.
12. Strabismus.
13. Amblyopia.
14. Hare lip.
15. Hypertrophied prostate.

The collection of such statistics is valuable as bearing on the question of race immunity; so that we hope our Southern doctors will put themselves to some trouble to furnish statistics on this subject to the Doctor. His street address is 413-415 Broadway, Cincinnati, Ohio.

Drs. Flint, Dennis and Alexander Resigned from Bellevue.

It is currently reported that Drs. Austin Flint, Frederick Dennis and Samuel Alexander have resigned from the faculty of Bellevue Hospital Medical College. The change in the old institution is, indeed, a radical one. "Bellevue without a 'Flint' suggests Hamlet with the Prince left out." Drs. Flint, Dennis and Alexander are said to have accepted professorships in the faculty of Cornell.—*N. Y. Poly-clinic*, July 15, 1898.

Obituary Record.

Dr. William Pepper.

In the death of Dr. William Pepper, which occurred last Thursday [July 28] in California, America loses one of her best known physicians. Although closely identified with Philadelphia and its medical interests, Dr. Pepper, through his writing and public spirit, was known in a much wider sphere, and the news of his somewhat untimely death will be felt wherever the English language is read.

He was born in 1843, and obtained his aca-

demic training at the University of Pennsylvania. He later graduated from the medical department of the same institution, and was connected with various hospitals in Philadelphia. It was he who was chiefly instrumental in the establishment of the University Hospital, securing the gift of a site from the city of Philadelphia, and serving as chairman of the finance and building committees.

In the University of Pennsylvania, he was lecturer on morbid anatomy in 1868-1870, and on clinical medicine in 1870-76, and professor of the latter branch from 1876 to 1884, when he was elected to the chair of the theory and practice of medicine. In January, 1881, he was unanimously elected provost of the University. This office he resigned in 1894. He founded the *Philadelphia Medical Times*, and was its editor in 1870-71, and was medical director of the Centennial International Exposition, and for his services in connection therewith received from the King of Sweden the decoration of Knight Commander of the Order of St. Olaf. He held membership in many national and local societies, and was at times President of many of them. In 1881, he was given the degree of LL.D. by Lafayette College.

Work for which Dr. Pepper will be appreciatively remembered is that in connection with the development of a more thorough medical course. This advance was secured through the extension of the course of study in the University of Pennsylvania to four years. Toward the carrying out of this plan he made a liberal personal subscription. Our larger medical schools have, as we know, in general adopted a four-years' prescribed course, so that the pioneers have lost some of the prestige of the reform which at the time seemed so radical. In 1892, under Dr. Pepper's leadership, the University took another step forward in establishing a post graduate department for women.

His most important literary work was the editing of the "System of Medicine by American Authors." This secured an immediate success, and is recognized as one of the chief American authorities on medical questions. He published, in conjunction with Dr. Jno. F. Meigs, successive editions of their work on "Diseases of Children." Among his contributions to journals or the transactions of societies were many medical papers of value.

Apart from work associated with his profession, which always claimed his first attention, he was a public spirited man in the best sense of the term, and was to Philadelphia a good citizen as well as an eminent physician. The places of such men are hard to fill.—*Boston Med. and Surg. Jour.*, Aug. 4.

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Original Communications.

MODERN SURGERY OF THE RECTUM.

By SOUTHGATE LEIGH, M. D., Norfolk, Va.

The subject upon which I am to speak to you to-day I have chosen on account of its practical value. Although this is a simple department of surgery, it is one in which great strides have been made of late, and a vast amount of unnecessary suffering avoided by the introduction of more efficient methods.

Diseases of the rectum are very prevalent. Hundreds of people are suffering to-day for the lack of proper surgical aid, and are shrinking from accepting natural relief in fear either of the pain of the operation or its unsuccessful completion. This is largely due to the accounts spread abroad of the many cases incompletely or improperly cared for.

The old methods of operating upon these diseases were crude in the extreme. Let us take, for example, *Fistula in Ano*. The patient's bowels were not prepared, and little attempt was made at surgical cleanliness; frequently no anæsthetic was given. A probe was run into the tract, followed by a grooved director, and one cut made with a curved, sharp-pointed bistoury completed the so-called operation. The after treatment was nothing. The bowels moved as they pleased. The result was untold suffering until the parts apparently healed, only to break out a few months later in another fistula, worse than the first.

With our present methods and improved hospital facilities, it is possible to cure *absolutely*, and with *little or no pain*, every case of this kind and to avoid even the slightest chance of recurrence.

In an experience of nearly three hundred cases of hemorrhoids, fistulæ, and kindred troubles, I have not had a single recurrence or bad effect of any kind. These results are,

however, due to the most painstaking care and minute attention to every detail of the treatment; to absolute thoroughness in preparation, thoroughness in the operation, and thoroughness in the after-treatment.

I take it for granted that this Society has been formed for the mutual benefit of its members and for the relief of the thousands of suffering people to whom they minister. I hope to gain for myself knowledge and wisdom from its deliberations, and I feel it my duty to respectfully offer, in return, a few practical suggestions drawn from my personal experience in the surgical treatment of these most troublesome diseases. I can attempt no complete discourse on so extensive a subject here, and must therefore confine myself to the more prevalent forms of rectal disease and their suitable surgical treatment.

As in every case for surgical operation, the patient's general health should be in as good condition as possible, the better to withstand the deleterious effects of the anæsthetic, and also to abet the natural healing tendency. The bowels should be kept freely moved for several days before the operation—the most important point in the preparatory treatment being the emptying of the alimentary canal. The reasons for this are plain: The bowels should have nothing in them which might interfere with the course of the operation by an unfortunate movement on the table; they should also not be allowed to move for three or four days afterwards. To obtain this requirement, no solid food is given on the evening of the day preceding the operation, and fluids only are given on the day itself. The preceding night a mild cathartic is administered, preferably a small dose of compound licorice powder, to clean out the small intestines. Early the next morning a high enema is given, emptying the entire colon, and this is followed later by low enemata, repeated until the water returns clear. An opium suppository is sometimes inserted one hour before the operation. The skin around the rectum, perineum and

* Read before the Seaboard Medical Association.

buttocks is thoroughly shaved the night before the operation and a wet 1 per cent. carbolic dressing applied.

After the enemata, a sitz bath is given and the wet dressing reapplied. In female cases, an antiseptic vaginal douche is also used.

The patient is placed on the operating table in the lithotomy position. The operator lubricates his two thumbs with green soap and proceeds to stretch the sphincter. This is a most important procedure. Both the internal and external muscles must be completely stretched and temporarily paralyzed. This permits of a more thorough ocular inspection, facilitates the operation, and prevents subsequent pain. The utmost care must, however, be taken not to tear the mucous membrane. Much of the pain which one hears of as the result of rectal operations is due to the sphincter muscles regaining tone too early and contracting upon the tender parts. I have cured cases of painful fissure of the rectum by simply stretching the sphincter.

The next step of the operation is the thorough washing out of the rectum with green soap and a sponge on a holder, and a complete cleansing of the surrounding skin. The rectum is then irrigated with a 1:2000 or 1:3000 bichloride solution, the solution being confined to the lower rectum by a sponge attached to a string and inserted into the bowel. The skin is disinfected and covered around with wet bichloride towels, and, indeed, the strictest antiseptic precautions are followed throughout, the irrigation, especially, being freely used.

The examination of the rectum should be extensive and thorough. Sims' rectal speculum, aided by Kelly's rectal endoscopes and a reflected light, aid the exploration of the parts. The digital examination is especially useful to determine the consistency of the piles and the hardness and indurations of the ischio-rectal fossæ. Search must be made with the probe for fistulous openings, both external and internal.

The kind of operation depends, of course, upon the condition which is found to exist. And I must pause here to say that, unless one subjects the patient to an extremely painful examination, it is impossible to make an absolutely certain diagnosis without an anæsthetic. Of course, it is possible to ascertain whether or not an operation is necessary, but it is only upon the table and by a thorough examination that the exact condition of the parts can be determined. We frequently find hemorrhoids complicating fistula in ano, and two or more fistulous tracts where but one was apparent.

The operator should, therefore, be prepared for all conditions liable to exist in rectal cases.

I do not believe in painful examination, or indeed in painful surgery of any kind. I believe it to be as much the duty of the surgeon to do his work painlessly as to do it thoroughly. It would be a good lesson if every surgeon had to suffer some painful operation himself. It might make him more keenly alive to the nervous capacities of his patients. I have myself been through fire, and I know what it means to be hurt.

ISCHIO-RECTAL ABSCESSSES.

The operation should be performed as soon as pus forms, to prevent its breaking into the rectum and causing a fistula. *Poultices should never be used*, as heat makes the abscess larger and causes greater destruction of the tissues. A free, curved incision should be made, and the larger the better. The curve should be in a line parallel to the sphincter. The longer the cut, the quicker the cavity will heal and the less the existent danger of a fistula resulting. Curette and dissect out all diseased tissue as far as possible. If the cavity communicate with the rectum, cut through the sphincter as in a fistula operation. Stop all bleeding, cleanse and dry the cavity thoroughly, and pack tightly with iodoform gauze.

I believe that such fistulæ will never heal without operation. They often close up and remain quiet for a long time, but sooner or later a second abscess forms and breaks. In some cases this process is repeated over and over again for years.

RECTAL FISTULÆ.

In operating, find the tract with a probe, followed by a grooved director. If incomplete, internally or externally, complete it by passing the director through. Bring the end of the director out of the bowel in the manner usually described: In incising the bridge of tissue, use a scalpel, and dissect down layer by layer, separating the wound by retractors. This enables the operator to see what he is doing and to catch readily all bleeding points, often preventing troublesome hemorrhage.

Keeping the wound well separated, search for branch tracts and open all freely. If other fistulæ exist, incise them also. As a rule, the fistulæ extend above the sphincter, which has to be cut through. No trouble follows this. The rule is that the sphincter may be cut through in two places freely, and in some cases in three, without any bad after effect.

In women, the sphincter muscle is not so strong

as in men, and has to be looked after a little more carefully both in the stretching and in the cutting. I have never seen any bad after effects, but if the sphincter should be impaired by an extensive fistula operation, it could be restored by a secondary operation similar to that which is performed upon it in complete laceration of the perineum.

All diseased and indurated tissue must be thoroughly dissected out. The wound should be cleansed and dried. The packing is of the utmost importance. Strips of iodoform gauze are packed thoroughly into every part of the cut in such a way as to prevent the opposing surfaces from coming together at all.

HEMORRHOIDS.

After the stretching of the sphincter, the piles come into view and may be most satisfactorily examined. In a large majority of cases, they consist chiefly of greatly dilated blood vessels, which collapse upon pressure. *Of this class, the milder cases* are to be treated by the cautery operation, and the more severe cases by the clamp and cautery. If the trouble has been known to exist for a great length of time, and you find considerable formation of connective tissue, pressure between the thumb and finger will have but little effect. In such cases, a more radical operation must be performed. There is then a choice between the ligature operation and Whitehead's operation, in both of which the diseased tissue is extirpated.

Cautery Operation.—Holding the rectum open with a Sims' speculum, five or six longitudinal sears are made through the mucous membrane of the projecting parts, the Pacquelin cautery is preferred and must be kept at a dull heat, as a brighter heat will cause bleeding. This process of cauterization causes a contraction of the blood vessels, which begins immediately and continues for one or more months. The resulting scar also contracts, and hence the importance of adhering strictly to the longitudinal searing. If done in a transverse direction a stricture would be sure to result. My cases by this method alone, number twenty-two.

Clamp and Cautery.—In this operation the assistant by separating the buttocks will bring the piles better within reach. The operator grasps the surface of the pile about its middle with mouse tooth forceps, and holding the clamp in a longitudinal direction, catches a strip of the mucous membrane and a little of the tissues underneath. This he proceeds to burn off with the cautery at dull heat. Searing of this tissue until it shrivels up entirely, is better than cutting it off, preventing any

chance of bleeding afterwards. Each pile is treated in the same manner, care being taken that the clamp be always held in a longitudinal position, thus preventing all chance of stricture following the operation. Any co-existent external piles are best treated by the cautery only, or if there be projecting tabs of skin, they may be tied off with silk. The operation, if properly performed, yields most excellent results. The wounds heal entirely in about two weeks, though the contraction of the blood vessels continues for a much longer period.

The tendency among most operators is to remove considerable tissue. This is both unnecessary and harmful. A surprising amount of contraction results from the mere clamping and burning of a small strip of flesh.

The operation should not be done on those piles which contain a large amount of new connective tissue.

I have operated on seventy-eight cases by this method.

THE LIGATURE OPERATION.

I usually follow "the Allingham method" with the Mt. Sinai Hospital modification. An incision is first made around the anus at the muco-cutaneous junction. A Peaslee's needle, threaded with a loop of fine silk, is inserted first perpendicularly to the surface, then turned outwardly so as to catch some sub-cutaneous tissue; next inwardly to the mucous membrane of the rectum. Great care is exercised at this point to prevent including the sphincter in the ligature. The forefinger of the left hand in the rectum feels the end of the needle and guides it up until it is above the diseased tissue. The needle is then pushed through the mucous membrane and its handle depressed to bring it into view. The ligature made of very strong twisted silk is passed through the loop of fine silk, and the needle on being withdrawn pulls the ligature with it. The closed end of the double ligature is cut, making two ligatures which are crossed in the pile and is pressed in a groove made by a slight cut through the mucous membrane, between this pile and the next. The inner part of the mucous membrane is uncut, and the ligature is carried well up the rectum, the pile being pulled down by the assistant's forceps. After tying tightly, a part of the ligated tissue is cut off, leaving, however, a good stump to prevent the ligature from slipping. The other piles are treated in a similar manner. I have used this ligature method in thirty-two of my cases.

WHITEHEAD'S OPERATION.

This is the most perfect operation yet devised for hæmorrhoids, and yields the most brilliant results; and yet its indiscriminate use is not advisable. By this method the diseased part of the rectum is excised, and healthy mucous membrane is brought down and sewed to the skin. It is really an excision of the lower end of the rectum. For success it requires competent assistance, the utmost cleanliness, good healing power on the part of the patient, and close watching for a few days after the operation. I have followed this method in only ten of my cases, and in each I have obtained a perfect result. But I am frank to say that I have had more or less anxiety for the first three days, for fear the patient's bowels might move prematurely, or something happen to pull the wound apart.

The operation is performed as follows: An incision is made at the muco-cutaneous junction, and the edge of the mucous membrane grasped with artery forceps for retraction. The forefinger of the left hand is kept in the rectum as a guide. Dissection with scissors is carefully made until the sphincter muscle is reached; this is, of course, avoided. The mucous membrane is separated up high enough to permit of sufficient stretching. The longitudinal muscle fibres must be carefully dissected and stripped off. This is a most important step, preventing retraction of the mucous membrane afterwards. The dissection is carried all around the rectum until finally the lower end of the bowel, with numbers of artery forceps attached, lies loose like the free end of a cylinder. All that remains to be done is to cut off the lower diseased section and then suture it to the edge of the skin. This is best done a small portion at a time. Catgut is used for sutures. Hæmorrhage in this operation is considerable, demanding about two-thirds of the operator's time to catch the bleeding points.

AFTER TREATMENT OF RECTAL OPERATIONS.

The sponge on the string is removed carefully that it may not infect the wound. The parts are dried and a tampon canula is next inserted. This is a most important part of the technical work, and adds greatly to the comfort of the patient, and also hastens the healing of the parts. It brings a clean aseptic surface against the wounds, and permits of the free passage of gas from the rectum, also aiding in the easy moving of the bowels at the proper time.

The tampon canula is made of a piece of rubber tubing, around which are wrapped several layers of iodoform gauze incorporated with sterilized vaseline. A safety pin stuck across one end prevents it slipping too far into the bowel.

After the canula, a good sized dressing of sterilized gauze and cotton is applied and held snugly in place by a "T" binder.

The bowels are kept confined for from two to four days, according to the kind of operation. It is rarely necessary to give any medicine to control them, as the whole alimentary canal is empty, and the patient is kept on fluid diet and very still in bed.

There is rarely pain after the first few hours. The urine not infrequently has to be drawn by catheter.

On the day when the bowels are to be moved for the first time, a saline is given early in the morning. When the desire for movement is felt, the nurse injects, with a hard rubber syringe, about six ounces of warm sweet oil through the canula to lubricate the rectum, then inserts a stopper in the end of the tube to prevent the oil from escaping. In a few minutes this is followed by an enema of warm soap suds injected also through the tube, but with a fountain syringe. The stopper is reinserted, and the patient has an easy painless movement, passing the tube with the stool. A warm sitz-bath is then given and a dressing applied.

If the bowels have a tendency to move a second time, they are to be checked by opium.

Each day afterwards the patient takes a small dose of saline, sufficient to cause a soft movement, and each movement is followed by the sitz-bath and dressing. For months the bowels must be kept in such condition as to prevent the slightest constipation.

In fistula and abscess cases, the after treatment differs only in the dressing. The incisions must be each day thoroughly packed, so as to ensure perfect granulation from the bottom and also to prevent the slightest possibility of a return of the trouble. The patient must remain in bed until the wounds are healed so as to keep the packing well in place.

My cases in this line of rectal surgery number in all 267, distributed as follows: Hæmorrhoids, 142; fistulæ, 84, and ischio-rectal abscesses, 41. About two-thirds of these were males and one-third females. I believe that women suffer as much from these complaints as men, but they have greater patience and endurance in suffering, and do not so readily seek surgical relief. Few of these patients were

under twenty-five years of age, the majority being middle aged. A large proportion of these people followed sedentary occupations, the worst cases being among tailors. In this class I have frequently seen, on stretching the sphincter, a huge rosette of piles emerge from the rectum, resembling a bunch of enormous red strawberries!

The fistula cases usually proved to have begun with either an inflamed pile or an ischio-rectal abscess. The abscesses were mostly among people of very depressed vital powers. One of the worst cases that I ever saw was a man with marked diabetes.

The results in my cases have been most satisfactory. *There has been a complete and permanent cure in every case of hemorrhoids operated upon.* The same may be said of the fistula and abscess cases (excepting four, incurable tuberculous cases). They have all healed promptly and thoroughly, and without a single recurrence. I believe, however, that to the thoroughness of the after treatment carried out chiefly by my assistants has been due, in a large measure, the satisfactory results.

We can say truthfully to people suffering with these most troublesome diseases, that if their cases are severe they can get but little relief without an operation, and the longer the delay, the worse the disease becomes. *We can promise them a cure in every case, unless, of course, it be complicated by some other constitutional trouble.* We can promise that there will be no return of the disease if the proper care is taken in keeping the bowels sufficiently moved. We can assure them that from the operation there will be no fever, very little, if any pain, and practically no danger to health or life.

I know of no other department of modern surgery which can offer more certain and more brilliant results in the relief of these most distressing conditions.

SURGICAL APPLIED ANATOMY OF THE RECTUM.*

By THOS. CHAS. MARTIN, M. D., Cleveland, Ohio.

Lecturer on Diseases of the Rectum in Cleveland College of Physicians and Surgeons, etc.

Mensural methods of designating the situation of strictures in the rectum are of no surgical value.† In the same subject the length of the fixed rectum is variable with a state of activity or passivity, and in a state of activity there are variations in its length of at least one inch (2.54 cm.) between a contracted uplifted pelvic floor, and that of a depressed floor with anal eversion; both of which conditions may rapidly follow one upon the other while the examiner's finger is engaged in diagnosis. Again, variations in depth of the fixed rectum are quite noticeably regulated by the size of the finger introduced. The thumb may find a fixed rectum of two inches (5.08 cm.) in depth, while the little finger discovers it but a little more than an inch (2.54 cm.).

The pelvic floor in the infant is about one-half inch (1.27 cm.) in depth. The depth of the pelvic floor in the adult from the lower border of the relaxed external sphincter ani muscle to the levator ani muscle is extremely variable. In the aged male, because of senile enlargement of the prostate, the fixed rectum may be three inches (7.62 cm.) in depth. In the aged female, because of senile atrophy of the generative organs and contiguous structures, the pelvic floor may be even less than an inch (2.54 cm.) in depth. In the adipose and in the emaciated subjects, because of the character of the tissues occupying the ischio-rectal fossæ, there are great variations in the depth of the pelvic floor; hence, it is obvious that the palpable landmarks of the fixed rectum are situated at variable positions in the different sexes, and that the length of the fixed

*Read before the Cuyahoga County Medical Society, May 12, 1898. (Original abstract of an article published in the June, 1898, number of the *Columbus Medical Journal*).

†"One Hundred Cases of Stricture of the Rectum"—Allingham, *Diseases of the Rectum*, page 261, Churchill's, London—reported by the Allinghams, are designated as situated at such a number of "inches from the anus" or such a number of "inches up." For example: "Case number thirty-four; at. thirty-seven years; female; constitutional syphilis; stricture one-half inch from the anus. Case number thirty-six; at. thirteen years; female; no constitutional disease; stricture about two inches up. Case number forty-one; at. twenty-seven years; female; no constitutional disease; stricture annular, three inches up. Case number fifty; at. thirty years; female; constitutional syphilis; stricture high up. Case number sixty; at. forty-seven years; no constitutional disease; stricture only to be felt.

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rectum is changed in the same person at different periods of life, and in differing conditions of flesh.

The rectal valve constitutes the chief topographic feature of the movable abdominal rectum. Its histologic character qualifies it the typical anatomic valve. The attached border of each valve spans a little more than half the circumference of the rectum, and its free border projects half across the diameter of the inflated rectum. Thus, what has been heretofore considered as a cavernous ampulla is seen to be divided into several chambers. There are as many chambers in the rectum as there are rectal valves. The number of rectal valves is variable. Some subjects have but two, others have four, but ninety per cent. of persons possess three. The uppermost valve is invariably situated at the juncture of the rectum and the sigmoid flexure, which valve is invariably situated on the left, the next lower is on the right wall, and the lowermost is on the left. The positions of the lower two valves are sometimes anterior and posterior. It must be readily seen that the new methods of rectal inflation for rectal inspection which have determined our newer ideas of the topography of this part, justifies that the lowermost chamber be considered the first rectal chamber; the cavernous area beyond the first valve and below the second should be called the second chamber; and the upper chamber the third and perhaps fourth, according to the number of valves. The ancient arbitrary division of the rectum by the anatomists into upper first, middle second, and lower third parts should be abandoned. As the arrangement of the fibres of the muscular coats of the abdominal rectum and the attachments of the abdominal rectum provide for extension and contraction of the gut on its axis, as well as expansion of the diameter of the organ, it is obvious that there must be a great variation in the distance of any valve from the levator ani with the variable normal states of the organ. The normal range of movement upward and downward of a given valve is from two to three inches (5.08 to 7.62 cm.)

(1) In treating lesions on a level with the sphincter muscles, the operator should never divide these structures through the anterior quadrant. In the male, the external sphincter terminates in the tendinous raphe in common with the transversus perinei. Contraction of the transversus perinei will separate the divided fibres of the external sphincter and defeat the desired subsequent union of this muscle. If

an incision be carried forward, or forward and laterally into the transversus perinei, the perineal fascia which doubles over this muscle will be opened and the perineum and peri-urethral structures will be made accessible to extension of suppuration or other diseases of the anus and ischio-rectal tissues. In the female, an incision carried forward through the anterior quadrant would be unsurgical, because the peculiar arrangement of the fibres of the external sphincter ani and sphincter vaginae, and their relation with the transversus perinei, would, perhaps, conspire to produce vulvo-anal or recto-vaginal fistulae.

(2) A stricture located at the upper end of the fixed rectum and situated in the layer of the anal fascia, in the pelvic fascia, or in the fibres of the levator ani muscle, should not be cut in the anterior quadrant nor in the posterior quadrant, but in one or the other, or both, lateral quadrants. An incision through the anterior quadrant on the plane of the levator ani muscle would divide none of its fibres, because there are none there, and would endanger the urinary organs and the vagina in the male and female respectively. An incision made into the posterior quadrant on this level would fail to increase the diameter of the rectum for the reason that contraction of the fibres of the levator ani would hold in coaptation the lips of the wound in such a manner as to early re-establish the stricture. A skillfully made incision in the lateral quadrants in this region will not endanger the peritoneum. A possible hemorrhage will be readily controlled. And because of the direction of the fibres of the muscle, a short lateral incision will effectually increase the diameter of the part.

(3) The rectal valve must be reckoned with in studying the structures of the movable abdominal rectum. Linear posterior proctotomy because of the relation of the peritoneum to the posterior wall of the lower part of the movable rectum, is made eminently safe and will be efficacious in some instances. Semilunar (annular) strictures located at any other point of the circumference of the movable rectum, and which are built on the foundations supplied by the rectal valves, may be safely cut through to the depth of a quarter of an inch (0.63 cm.), provided the surgeon be equipped with the proper instruments, and provided the rectum be maintained in a state of atmospheric inflation at the time of the operation.

The writer's studies of the topography of the human rectum employed more than fifty autopsies on subjects of all ages, and physical ex-

aminations of several hundred living persons, and the facts which are set forth above justify the inference, he believes, that none but the topographic designation of the precise situation of the rectal lesion is of reliable surgical significance.

1077 Prospect Street.

page 112, mentions umbilical fistula as the remains of Meckel's diverticulum from the embryonic development of the omphalo-mesenteric duct. In this case it must have been the persistence of this duct which became inflamed from some form of irritation resulting in the umbilico-intestinal fistula.

308 East Grace Street.

UMBILICO-INTESTINAL FISTULA IN A CHILD EIGHT MONTHS OLD, OPENED BY SLOUGH—RAPID EMACIATION—DEATH.

By M. D. HOGE, JR., M. D., Richmond, Va.

President Richmond Academy of Medicine and Surgery;
Professor of Pathology and Urology, University
College of Medicine, Richmond, etc.

A few days ago I was called to see a male infant, eight months old, who, its mother said, was suffering from indigestion. No teeth had appeared, though the gums were slightly inflamed. He only received breast milk, and had been perfectly healthy up to this attack of spitting up his food and passing some undigested milk in the actions, which latter only occurred two or three times in twenty-four hours.

After prescribing for the baby, the mother asked me to look at the navel. There was no appearance of hernia, but in the centre was a small, half-dried, granulating mass, half the size of a green pea. A dry dressing was ordered to be applied with a bandage. Three days later I was hastily called, and on arrival I found the parents much alarmed. They said that a teacup full of thin, bright yellow material had discharged from the umbilicus. By pressing the abdomen near the opening yellow fecal-looking matter could be forced out. Large gauze compresses were tightly bound over the opening which now was the size of the navel. These were changed every two or three hours, and found each time to be saturated. After the discharge occurred, the baby had three movements from the anus, the character of which was like the umbilical discharge. It was ravenously hungry and ate enormously; but, notwithstanding, the patient soon began to become emaciated and died four days later.

The appearance of the parts and clinical history point to a direct communication between the umbilicus and small intestine, which was so high up that the baby died of starvation.

Holt, in Diseases of Infancy and Childhood,

IMPROVED METHOD FOR STERILIZING SILK AND CATGUT SUTURES.

By H. BERLIN, M. D., Chattanooga, Tenn.,

Professor of Special and Surgical Pathology and (Clinical
Gynecology, in Chattanooga Medical College, etc.

Silk and catgut sutures can be sterilized perfectly, but there is always danger of contamination in transporting them from the tanks and pans to their ultimate destination in the tissues operated on. Neither have we in our possession the means of rendering inert the pathogenic germs already existing in the body; consequently stitch abscess and suppuration still confront us.

In order to produce, if possible, ligatures that would overcome these difficulties, we made a series of experiments in the Pathological Laboratory of the Chattanooga Medical College, and found the results obtained with glutolized sutures so favorable that we now use them in abdominal work as well as minor surgery.

In seeking to perfect the sterilization of sutures, the power of formaldehyde to form with gelatine an insoluble combination (glutol) was taken into consideration. This substance, when subjected to the action of living tissues, gives up its formaldehyde, thus converting the wound itself into a laboratory where a powerful sterilizing agent is constantly produced. The process for making the preparation is the same as that employed for making glutol. While the preparation is still liquid, the sutures for sterilization are introduced and left for twenty-four hours, after which they can either be removed, rolled up and put away in sterilized jars, or left in the preparation and used directly therefrom. If put into jars, these vessels should contain a piece of filter paper in the bottom saturated with paraldehyde.

In order to test their efficiency, the following experiments were made:

First, The foreleg of a dog was shaved and washed with soap and water; then a wound

two inches in length was inflicted with a sharp bistoury. The upper part of the incision was closed with glutolized silk, the lower with catgut, then dusted with glutol and covered with sterilized gauze. Result: Healing by first intention without suppuration.

Second. The abdomen of a dog was shaved and washed with sterilized water; an incision four inches long was made into the peritoneal cavity. Peritoneum was united with glutolized catgut and the abdominal walls with glutolized silk. Glutol and gauze were applied externally. Result: Healing by first intention without suppuration.

Third. The left side of a medium-sized dog was washed with sterilized water and an incision two and one-half inches long was made between the lower rib and the crest of the ilium. The kidney was brought forward, ureter, artery and veins tied with glutolized silk, kidney excised, and edges of wound united with glutol catgut. Glutol and gauze were used for external dressing. Healing by first intention without suppuration.

Fourth. The abdomen of a hound was shaved and washed with formaline water, $\frac{1}{2}$ per cent. An incision two inches long, made in the descending colon, was closed with Lembert sutures of glutolized silk, peritoneum and abdominal walls were brought together with deep sutures of glutolized silk; wound dusted with glutol. Healed without suppuration.

Fifth. The left side of the thorax of a dog was shaved and washed; an incision was made down to the ribs, which was closed by a glutolized silk ligature previously soaked in fresh pus from a whitlow. The wound was dusted with glutol and covered with collodion cotton. Healed without suppuration.

Sixth. A large dog was chosen, the leg shaved and washed with sterilized water. The femoral vein was then dissected free from adjoining structures and severed, the proximal and distal ends being ligated with glutolized silk; the wound was washed with a one per cent. solution of formaldehyde and closed with thick catgut sutures; dusted with glutol and dressed with sterilized cotton. Healing took place without suppuration—œdema disappearing in one week.

Seventh. The side of the thorax of a large rabbit was shaved and washed with half per cent. solution of formaldehyde and an incision one inch in length was made down to the ribs, then dried with sterilized gauze, sprinkled over with an emulsion of fresh tubercular bacillus, and united with glutolized catgut. Healing took place without suppuration. After

two months there was no development of tuberculosis.

Being satisfied that the new method was an advance upon those generally employed, it was further tested in the following operations with excellent results:—

In several cases of lacerated wounds and amputations; in two abdominal hernias; one of tubercular peritonitis; one oöphorectomy, and one hysterectomy.

Taking into consideration the above results, even when the sutures had been infected with pathogenic elements, we no longer hesitate to recommend the glutolized ligatures as being superior to those prepared in the ordinary manner.

110 McCallum Avenue.

STAB-WOUND OF THE THORACIC DUCT—RECOVERY.*

By W. H. LYNE, M. D., Richmond, Va.

Demonstrator of Surgery and of Normal Histology, Medical College of Virginia; late Resident Physician City Almshouse Hospital, Richmond.

During my service in the City Almshouse Hospital of this city, many were the unusual, interesting and instructive cases that came under observation, since this is the only emergency hospital here. Often cases of such rare occurrence befell the lot of the ambulance surgeon as to be regarded as surgical curiosities, chief among which is the following, viz.: a stab-wound of the thoracic duct at the base of the neck, the result of a midnight street brawl.

Dr. John A. Wyeth, in his most lucid essays on ligations, describes, on account of the proximity to the cervical blood-vessels, the anatomy of the thoracic duct, which is but little larger than a goose quill near its termination, as follows: "On a level with the insertion of the scalenus it arches to the left, crosses in front of the subclavian, in front of the scalenus, behind the internal jugular and curves downward to empty into the subclavian at its junction with the jugular to form the left innominate vein." Posteriorly to the origin of the sterno-mastoid muscle, lies the small anatomic field bisected by the following vital structures—the pneumogastric and phrenic nerves, internal jugular and subclavian veins, subclavian and left common carotid arteries, the

*Read before the Richmond Academy of Medicine and Surgery, August 9, 1898.

thoracic duct and the near-by brachial plexus; a field which the mighty dare but enter after the most careful deliberation and thorough study, yet the would-be assassin's knife plunged amid this network of vital structures wounding only the thoracic duct.

On account of the rarity of injury to the thoracic duct, many works on surgery absolutely ignore the subject, while others dismiss it with a paragraph.

Very little is recognized in life concerning diseases of the thoracic duct, necropsic findings, however, demonstrating their existence as secondary chiefly to a tubercular condition or a suppuration in some of the near-by viscera or lymphatic glands. Pus, blood, bile, and even calcareous matter and concretions have been found in the duct; a rare case of ossification of the duct has been noted as well as one of gangrene.

Sir Astley Cooper's experiments on animals revealed that gradual compression of the duct resulted in its dilatation, whereas rupture resulted if suddenly compressed; during intestinal digestion, a compression of only a few minutes sufficing to effect a rupture, this being readily explained since the duct at this time is normally distended, due to the absorption of the digested fats brought thither by the lymphatics, the sole conductors of this force-producing product. Where pressure is gradual and permanent, a chylous engorgement ensues, resulting in the establishment of a collateral lymphatic circulation. A varicose thoracic duct, like a varicose vein, is subject to rupture, discharging, according to locality, into or behind the peritoneum, into or behind the pleura, into the posterior mediastinum, or into the bladder; the effusions producing chylous ascites, chylothorax or chyluria, a case of the latter condition existing intermittently for fifty years in a woman.

Several interesting reports of abdominal and thoracic paracenteses have been made, in which the fluid microscopically proved to be chyle, the quantity being enormous. For instance, 289 pints in 22 tapplings; in another, 15 gallons in 63 days; and a third in which 11.8 litres were found and withdrawn post mortem from the pleura.

The causes of rupture of the duct are (1) traumatism or (2) obstruction, which is produced, as in other ducts, by causes from within, as infiltration or thickening of its walls, stenosis from cicatricial contraction, thrombi, etc., or causes from without, as pressure from neoplasms, etc. A cause not common to the obstruction of other ducts, but analogous, is the

blocking of the venous outlet, produced not only by a thrombus but by cardiac dilatation with its subsequent venous engorgement, which necessarily interferes with the discharge of chyle into the subclavian vein.

A case is reported where a child with a congenital heart lesion subsequently developed an elephantiasic swelling of the right leg with a papular eruption, from which exuded a chylous fluid, such eruptions being associated with or alternating in cases of chylous ascites and chyluria. The frequency of concurrent phlebitis and lymphangitis readily explains the old term "milk leg," now known as a result of a phlebitis. The association of thoracic duct disease, ascertained *post mortem*, with other tubercular conditions, leads me to attribute the malnutrition and emaciation in this dread malady largely to this non-recognized cause.

Experimental wounds in animals have demonstrated the spontaneous cure of thoracic duct wounds, yet death from inanition is to be expected in the vast majority of cases.

Spontaneous cure is effected by either or both of two ways: (1) by contraction of the unstripped muscular tissue, which is circular but scant near its termination, along with the auxiliary elastic tissue, which is longitudinal; (2) by spontaneous coagulation of chyle, a property acquired after having passed through the mesenteric glands. Not only are the function and histologic structure of lymphatics and blood-vessels nearly analogous, but also the results of wounds of each, longitudinal ones bleeding less freely than transverse, the severed edges being more readily apposed.

As in other ducts, longitudinal wounds in healing are less liable to be followed by stricture. Since the molecular basis of chyle is emulsified fat (this giving it its milky color, being colorless except during intestinal digestion), it becomes patent that a system deprived of this compound, as well as its circulating medium, the excess of the albuminous liquor sanguinis must necessarily suffer; the patient gradually wasting away if the sequela be a stricture or a fistula, or dying from starvation if the duct be completely severed.

The following case is of more than ordinary interest aside from its infrequency, since recovery, followed by no ill effects, resulted:

CASE.—About 1 A. M. May 5, 1896, I was called to an emergency case at one of the police stations. On entering, information was given by some of the officers "that a negro man had been stabbed in the neck and that white blood, like milk, was coming from the wound." A thoracic duct injury was suspected by exclu-

sion, but I silently agreed with them that "I had never seen white blood before."

The negro, aged 24, was of splendid physique, being a porter in a large hay and grain establishment.

On examination, an oblique stab-wound about one inch long, depth unknown, was found above and behind the left clavicle and parallel with the outer border of the sternocleido-mastoid near its attachment, thus, from the anatomy of the parts, necessitating a longitudinal wound of the thoracic duct. There had been considerable hemorrhage, which had stopped, and an abundant milky fluid was steadily escaping from the wound. For quite a time I was at a loss as to treatment, but, acting on the advice once given me by an older physician, "to look wise, say little, and do something if necessary," I decided to tampon, which was repeatedly done after having cleansed the wound with a weak, hot, carbolized solution, the packing of iodoform gauze and compress becoming soaked with chyle. On removing the patient to the hospital, the wound was again redressed under scarcely better aseptic surroundings, using a dressing of like character as before. When this dressing was applied, chyle was still escaping in good quantity, though the patient had been slowly moved nearly three miles. On removing the dressing during the ward visit, about seven hours thereafter, the escaping chyle and oozing had completely stopped, and the regulation dressing was reapplied with the approval of the surgeon-in-chief, Dr. J. G. Trevilian.

The patient was allowed a light diet. His recovery was prompt and uneventful, the only untoward symptom being a slight suppuration, the patient being discharged nine days after his admission, complaining only of a slight stiffness of his left arm. The patient was seen August 2, 1898, and was enjoying perfect health, weighing ten pounds more than he ever weighed before.

I regret to state that no specimen of the chyle was secured for microscopic and analytic examination, which would have proved of special interest.*

409 East Grace Street.

*Due credit must be allowed Bertrand Dawson, of London, for his exhaustive medical contribution in Vol. IV. of the *Twentieth Century Practice*, Wyeth, Packard, Parks, and the *American Text Book of Surgery*.

REPORT OF A CASE OF GUNSHOT WOUND OF THE ABDOMEN, WITH INJURY OF THE INTESTINES—ABDOMINAL SECTION—RECOVERY.

By RALPH W. BROWN, M. D., Roanoke, Va.

It is not my intention to discuss the subject of gunshot wounds in the abdominal region in a general way, but to report a case which I think of sufficient interest to add to the literature on this subject.

Holly H., colored, age 16, was accidentally shot with a 32-calibre pistol ball on March 4th, 2 P. M. I was called to attend about 8 P. M. Drs. H. E. Jones, S. S. Guerrant and myself held a consultation at 9 P. M. and agreed on an exploratory laparotomy. The patient's home was everything but a proper place for an abdominal section, being unclean and with very bad sanitary surroundings. However, as there is no hospital here for the colored, we were compelled to operate under every disadvantage.

The ball entered about one inch directly above the umbilicus, and ranged obliquely downward, entering the abdominal cavity. The ball entering obliquely as it did, served to keep the opening into the abdomen more or less closed. The instruments and dressings being thoroughly sterile, the patient's abdomen properly prepared, the operation was begun at 10 P. M.

The patient having been anesthetized by Dr. Guerrant, assisted by Dr. H. E. Jones, I made an incision through the injury into the abdominal cavity. As soon as the peritoneal cavity was reached, there was a discharge of blood. Feeling assured that some of the viscera were injured, we enlarged the incision and examined the intestines in that region. Developments proved that the convolutions of small intestines had been shot through in three places, making six holes in the gut. When the intestines were first drawn out, a large mesenteric vein was found completely severed. A bend in the gut had temporarily checked the bleeding vessel; as soon, however, as it was straightened, free hemorrhage ensued. Each opening in the intestine was brought together and closed with aseptic silk. The bleeding vessel was also ligated with aseptic silk. That portion of the intestine that was drawn out, was thoroughly cleaned with sterile water, and returned to the abdominal cavity, itself being well flushed with large quantities of hot sterile water, which relieved, to a great degree, the shock, which at this time was considerable.

The aperture in the abdominal wall was closed in the usual way, a glass drainage tube being left in position for twenty-four hours. The operation was performed under the strictest aseptic precautions that the nature of the case and the surroundings would allow.

We all agreed that the prognosis was very grave, and did not expect the patient to survive twenty-four hours, as some peritonitis had already developed from the intestinal gases and secretions, which escaped before the operation.

The patient rallied well from the anæsthetic and from the shock. The pulse next day was 87 and temperature 98°. It remained thus, with very slight variation, for ten days. At the end of this time the pulse began to decline, reaching as low as 50, although the volume was fairly good. The bowels moved slightly in forty-eight hours after the operation, and were kept loose by enemata. The patient was put on liquid diet for two weeks, chiefly milk; after that soft eggs, and semi-solid food until the expiration of four weeks, and then solid food. He sat up on the fourteenth day, and was on the street in six weeks, completely recovered, and able to go about his usual work.

When first injured there was no evidence of perforation of the gut, and only a slight indication of internal hæmorrhage. In fact, the symptoms of both perforation and hæmorrhage were so obscure, that in my mind comparatively few physicians would have made an exploratory laparotomy. Expectant treatment would probably have been adopted until the time had passed for operation.

A few practical deductions are suggested here.

1. In gunshot wounds of the abdomen where the peritoneal cavity is entered, an exploratory laparotomy is always the safest procedure, whether there are signs of internal injury or not, as it may lead to the discovery of serious trouble. The danger from the operation is itself very slight.

2. Lacerated gunshot wounds of the intestines heal readily when properly brought together under asepsis.

3. Aseptic surroundings are not always necessary for success in abdominal sections if the surgeon be careful to render instruments, dressings, and hands thoroughly sterile.

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Correspondence.

Medical Experiences in Mexico—Habits of Practice among Natives—Medical Laws, etc., etc.

MONTEREY, MEXICO, August.

Editor Virginia Medical Semi-Monthly.—A letter from this tropical climate during the heated term might have a cooling effect upon your many readers. I propose a rambling one from this district—one which will give you a slight idea of the work of a medico in Mexico. And best to illustrate, I shall briefly report a few cases, allowing your readers to draw their own inferences from said reports. I shall not draw on my imagination nor paint with over-bright colors.

I would premise by stating that I came here broken down physically from overwork, and have been a close and interested observer of the practice of all classes of the profession. My work being largely confined to consultations and office practice, I have had ample opportunities for observation.

In Monterey (a city rapidly becoming Americanized), we have more intelligence among the native medicos than any city in the Republic (except the city of Mexico). They have here a medical college, a well equipped hospital (after the French style), and a complete surgical armamentarium—indeed, only a few days since a young native medical graduate called upon me with a catalogue of medical appliances and surgical instruments, requesting that I would select such as might be needed. A list was made out, when he turned to the agent and told him to send a full and complete set of everything he had. Thus, you see, the doctors are well armed, and many of them have much *book learning*.

But if a case occurs not in a strict line with the text-books, they are at sea. I have not met any of them who could meet an emergency. A few weeks since, on being called to meet Dr. L., I found that the patient had aborted at the third month, a portion of the membrane being retained. A slight flow had continued for some days. Ergot had been administered, but not bringing relief, cords were tied tightly around each leg, and she was left for the night. When seen by myself the next day, her trouble was relieved by removal of the protruding membrane. Her legs were sore for many days.

Another example of the native doctor's ideas of surgery is aptly illustrated in the following

case: About the last of May, a young man, whilst arranging some of the machinery of an ore crusher, caught his foot on the cog-wheel; being drawn in, it was crushed to a pulp, including all the bones of the ankle. The accident occurring a hundred miles from a railroad, a Mexican surgeon was called. Morphine was administered freely, and both foot and leg were wrapped in dirty cotton, and the wounded man was told he must die. Being called by wire three days after the receipt of injury, I saw the patient with a temperature of 105° F. and marked evidence of blood poison. The dressing had not been changed since its application, as the physician said the patient would bleed to death if the cotton was removed. The parts were at once disinfected and bathed thoroughly; the leg was removed, notwithstanding the protest of the native medico, who stated that the man would die and that I would be locked up in jail. The patient, being an American, took the chances; I operated and all came out well, as the patient made a speedy recovery.

I give this case to illustrate the proclivity to tardiness; it is *wait, wait*, until the patient *dies*.

Until within the past year or more, a law has been in force here which, no matter how serious an accident or wound, from any cause, the surgeon could not interfere until the civil authorities had viewed the case. If an artery was cut and a surgeon standing by, he interposed at the risk of being jailed. Soon after my arrival here, being called to see a little American girl who had her face terribly lacerated by a dog, I proceeded at once to dress the wound and stop the hemorrhage. A policeman walked up, demanding that I stop until the judge came. Not understanding Spanish, I finished my dressing. About the same time the judge came in, ordering the dressing removed. Asking if he was an M. D., and being answered in the negative, I declined; whereupon I was summoned before the authorities, and the dog was escorted to the police court to stand his trial. Sequel: Doctor released with a reprimand and dog sentenced to be shot.

Another case—obstetrical—painted true to nature: The wife of one of the leading physicians of this city, being in labor (a multipara), progressing rather slowly, consultation was called. Ergot was administered; membranes ruptured; forceps of all sorts and sizes sent for, and four M. D.'s endeavored all night to deliver the poor woman. Upon my entering the room, there were two doctors on the bed, the poor patient was lying stretched at full length in the middle of the broad bed, and

one physician trying to apply a pair of short forceps with the head in the superior strait; and for hours one pair after another had been used. The patient, almost exhausted, was placed in proper position, and Elliott's forceps applied and woman relieved, thereby making for Dr. + a big reputation in that circle.

One more case and I am done, though many more could be cited. Some time since, a Mexican received a slight wound about the nose. Being intoxicated, he went to *sleep* beside the road; the larvæ of the screw *worm* were deposited, and he soon became a great sufferer—having a thin, bloody discharge from the nose. His physician, a native, informed him that he had *inflammation of the brain*. Mustard was ordered to the ankles and blisters to the neck. The poor fellow's suffering becoming unbearable, a consultation was demanded. The cause was sought and removed.

The native doctors are courteous and polite, and invariably I have been treated with the utmost cordiality and respect in meeting them in consultation. They accept the suggestions made without a word of criticism, or change treatment, though five or six may have been in full accord as to a different line of treatment. Another matter that may interest some of your readers (as my mail brings me letters of inquiry as to the laws governing the practice of medicine here). They are very liberal. Foreign physicians have only to exhibit and establish the evidence of graduation from a reputable medical college—those of Philadelphia and New York standing foremost, though all regular schools are recognized. The diploma is submitted to the board of examiners; a fee of two dollars demanded, and it is passed over to the civil authorities, who again demand a quarterly fee, rated as the M. D. is from a first to a third class college—first class, \$10 per quarter; second, \$5, and third, \$2.50.

Now, one word for our climate. Monterey is located in a valley, but has an altitude of seventeen hundred feet above sea level. Primitive rivers break out with bright, clear water in several places in and around the city. Within fifteen miles of the city are mountain heights and table lands, ranging from seven to ten thousand feet high. This is an ideal land of rest and quiet, and whilst the midday sun is very hot—indeed, its desiccating effect is such that the most *venomous microbe* ever conceived in the brain of our German *micrologist* would at once succumb to its rays—mornings and nights are always cool. Patients suffering from nerve tire or incipient phthisis, bronchitis and kidney troubles, will all be benefited—

i. e., if they are not confined to bed and room. This is no place for a bedridden patient. It is the soft, balmy ozone-laden air, with all the novelties of a foreign country and scenes as primitive as our old Bible pictures, to divert and interest the mind on every side. Music of the military bands, with troops ever on the march from one barrack to the other, all combine to help the invalid forget self, and thus permits *vis naturæ* to do its own good work.

E. CROSS, M. D.

Definitions of "Quass" and "Gabelle."

NEW YORK, August 10, 1898.

Editor of *Virginia Medical Semi-Monthly*:

An article by Dr. Irving C. Rosse of Washington, D. C., appearing in the *Monthly* for October, 1896, has just caught my eye; and in the same spirit in which the meritorious article, entitled, "Words not Usually Found in Medical Dictionaries," is written, I wish to modify one definition and to make a query regarding another.

1. *Quass* is stated to be "Alaskan whiskey." In reality, it is a Russian fermented beverage, which is also distilled, and probably reached Alaska, as an article from the mother country accompanying the colonists who settled in Alaska. There is no evidence of its prior existence among the Alents or Alaskans.

2. "*Gabelle*" is defined as a designation for salt among certain African tribes. This is interesting, for "*gabelle*" was also the name for the salt-tax in France in and before Richelieu's day. Can Dr. Rosse's researches enlighten us, as to in which country the term was first used?

Yours respectfully,

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Cimicifuga for Tinnitus Aurium.

At the last French Congress of Otology, Robin and Mendel mentioned the use of *Cimicifuga racemosa* as a remedy for tinnitus aurium. Mendel now reports (*Journal des praticiens*, July 16th) further operations with the drug, which he has used in the form of the fluid extract in daily amounts of from fifteen to thirty drops. In a fair proportion of the cases, it stops the annoying subjective noises, but in some it fails. When it is effective, it is very rapid in its action, putting an end to the tinnitus, for the time being at least, in two or three days.—*N. Y. Med. Jour.*, Aug. 20.

Analyses, Selections, etc.

Has the Treatment of Diabetes Mellitus Improved?

The recent review of diabetes mellitus at the Massachusetts General Hospital, from 1824 to 1898, would at first glance appear to answer this question in the negative, for the statistics show no decrease in mortality during this entire period. But such a conclusion can hardly be drawn, since any marked changes which have been made in the treatment of this affection have been of very recent date.

It is, perhaps, as much the change in our point of view of regarding the disease as the variations in treatment which are capable of producing better results. The statement occurs so frequently in text-books that diabetes is incurable, that the practitioner loses all his enthusiasm the moment a patient with this disease presents himself. In despair he attempts a palliative treatment, writes out lists of articles headed "allowed," or "to be avoided," and perhaps adds a recipe for some new diabetic flour, while in giving the prognosis the patient's courage is perceptibly lowered.

In contrast to this gloomy picture is the hopeful view which is best set forth in Naunyn's treatise (*Der Diabetes Mellitus*, Wien., 1898, p. 357). The keynote of this is contained in the following quotation: "That cases, apparently severe at the outset, when subjected to a vigorous treatment, take a proportionately favorable course, while others running a severe course are, as a rule, those subjected late or not at all to careful treatment." Coming from so eminent an authority, this statement is of the greatest value, since it counteracts the tone of the usual text-book. Naunyn, in carrying out this idea, says further: "I consider it an unfortunate curtailment of the physician's task in the treatment of diabetes where it is said, 'the essential task of the physician is to support the invalid in an endurable condition of life for a long time.' In my opinion, a broader, more definite purpose should be put into the treatment, namely: this, the strengthening of the deranged bodily function, or at least the checking of further disintegration of the same." This change of view is our first step toward an improved treatment for diabetes.

That drugs are of little value in this disease is now generally admitted. Notwithstanding this, there are few of us who have not heard from eminent sources that considerable success has been obtained from this or that remedy. Patients like the idea of taking medicine, and

come to the doctor for the sake of the prescription, just as they often go to church for the music. The advice as to the diet and hygiene, either of the body or soul, forms too commonly an entirely secondary consideration. But this question of drugs, at least for a host of remedies, is definitely settled for us by the Massachusetts General Hospital report above alluded to. The pancreatic preparations proved unsatisfactory. No drug, save opium, commended itself, and that in no wise as a specific. It certainly is another step forward, this relegation of the pharmacopeia in diabetes to a very minor position.

Rollo recommended an animal diet as long ago as 1797, and it would seem as if little improvement in treatment had taken place, or could be hoped for in the future along this line. But the point made by Rollo was the prominence given to an animal diet over carbohydrates. Little was said of the great class of fats, and what was said was quite as much against as for their use; for example, at the Massachusetts General Hospital, as late as the period 1840-1855, occurs a record of the following diet: "Lean meat, with a small quantity of stale, dry or toasted bread, avoiding all fatty, farinaceous and saccharine articles." That fifty years ago there was a lack of appreciation of the importance of fats can be understood, but that this idea has been allowed to persist seems incredible. That it does persist can be seen by consulting the most recent books of medicine, or by looking over the proceedings of the meetings of the British Medical Association recently convened in Montreal.

The importance of fats is seen first from the fact that they are the form of food best assimilated by the diabetic patient. Nearly all the sugar and starch given leaves the body unused, and for every 100 grammes of albumin, there is the possibility of 45 grammes of sugar appearing in the urine, whereas from fat, little, if any, sugar is formed. But this is not all, and herein lies another great advantage in fats. Each gramme of fat is capable of furnishing nine calories on being oxidized by the natural processes of the body metabolism, whereas a gramme of proteid matter yields but four calories, even allowing that none of it is converted into sugar. These are facts, and on these facts a rational treatment of diabetes must rest.

In the light of all this, the books still continue to recommend or countenance skim milk and buttermilk either as a prominent constituent of the diet or as worthy of trial. The difference between the amount of sugar in ordinary milk and these by-products is unessential,

but the difference in fat is so great that it amounts to more than one-half of the total quantity of nourishment therein contained. In every litre of good milk, the diabetic patient receives some 300 calories more nourishment (and that of the quality best suited to his needs) than he does in skim milk.

Following the remarks on skim milk in the text books comes the section on diabetic breads—that pitfall over which few pass in safety. Over and over again these have been exposed here in Boston many years ago, and again this year. Need we wait until the millennium before it is recognized that a small known quantity of ordinary bread is better than an unlimited amount of bread nearly as rich, or even richer, in carbohydrates?

The commonly accepted mode of treatment of diabetics has been, and still is, of a negative character. This is a much more serious charge against it than to say that skim milk and diabetic breads are used. Article after article is cut off from the patient's diet, and even what is left him he is only "allowed," until finally he comes to think he eats at all only by sufferance. The secret of the successful dietetic treatment of diabetes lies entirely in the opposite direction. The diet is positive. It is not a question of *how little sugar*, but rather *how much fat*. It is not so much the withholding of articles of food as it is the prescribing of those best adapted to the patient's condition. Von Noorden gives, to form a basis of the diet, what he calls his "Eisernen Bestand," which consists of 60 grammes butter, 2 eggs, 10 grammes olive oil, 30 grammes fat cheese, 1 litre milk, and 30 grammes alcohol. This quantity of food can be taken daily, is sure of assimilation, and furnishes the patient some 1,600 calories, or nearly two-thirds of all that he needs. For the remaining amount, there can be considerable latitude admitting of variety.

That one may rightly prescribe and the other follow the directions given, both doctor and patient must know the amount of food taken, and having a working knowledge of its three constituents. This can only be obtained on the doctor's part by the study of first principles. This does not mean theoretical, but practical study. He must know how much butter can be taken at a meal, how much cream can be mixed with the coffee, how much oil can be used in salads, etc. Only by personally weighing and measuring the kind of food his patient is to eat can he rightly advise him. Then, if it is found that the sugar continues to be excreted, the cause can be located,

and a more suitable form of carbohydrates given, or the total amount can be further restricted. Really, an interested, intelligent cook is of more value to most diabetics than a trained nurse. A Denver doctor recently said of consumptives, that if they wished to get cured of phthisis, they must make a business of it. In diabetes, this applies to doctor and patient alike. Between the two a partnership must be formed, and with a more cheerful way of regarding the disease at the outset, a better appreciation of the value of fats and a positive diet list, the results will show that there is, even in diabetes, an improvement in our treatment.—*Bost. Med. and Surg. Jour.*, August 18, 1898.

Illegal for a Doctor to Practice After Conviction of a Felony.

A decision of unusual interest to the medical profession throughout the world has lately been handed down by the United States Supreme Court. In 1878 Dr. Benj. W. Hawker, a legally qualified practitioner of the State of New York, was convicted of a felony, viz.: performing a criminal abortion; and was sentenced to imprisonment for ten years. At the expiration of his time of servitude he attempted to resume practice, with the result that the Medical Society of the County of New York brought suit against him for violation of a State law. His counsel argued that a construction of the law making it illegal to practice medicine after conviction of a felony, is unjust and unconstitutional, inasmuch as it in effect adds a new punishment for the crime. The people contended, however, that the State has the right to exact good moral character as one of the qualifications for the practice of medicine. The first trial resulted in a verdict of guilty and the imposition of a fine; the case was appealed and the judges of the Appellate Court decided to set aside the conviction, one judge (Ingraham) delivering a vigorous dissenting opinion. On a final appeal to the United States Supreme Court, nine judges confirmed the conviction and sustained the constitutionality of the law, citing many decisions in support of their position. The decision will, therefore, stand as law for all future time, and will debar any man or woman convicted of a felony from practicing medicine.

Hemorrhage in the New Born.

During the meeting of the San Francisco County Medical Society, June 14, 1898, Dr. Phillip King Brown spoke (*Pacif. Rec. Med. and Surg.*, Aug. 15,) of the hemorrhagic diseases

of the new born—especially hemorrhages from the gastro-intestinal tract in the new born.

The condition is not to be confounded with hemophilia to which it seems to bear no relation. The best classification of the trouble has been made by Townsend in the *Archives of Pediatrics* for 1894, in connection with some 50 cases, in which he finds that of about 6 per cent. of the children born in maternities and fewer number in private practice, there are quite extensive spontaneous hemorrhages from the small blood vessels. Hemorrhages may occur from the gastro intestinal tract, umbilicus, meninges, from the mucous membranes and subcutaneously, and they are not to be controlled. The hemorrhage starts from a certain place, and stops spontaneously or continues until the child dies. It begins usually from the second to the sixth day, and death may occur from twelve hours to six or eight days, or the child may go on to recovery. It is stated that 62 per cent. of the cases are fatal. Attention has been called to the fact that the blood from the hemorrhage does not coagulate. The case Dr. Brown saw indicates that the blood does coagulate very readily, as clots were washed out of the large intestines and they were found at post mortem. No remedy has thus far done any good whatever, and cases have either bled very mildly and recovered in time, or have gone on steadily and died. A peculiar thing about it is, that the temperature may be sub-normal from the start, or it may be elevated. Much has been written about acute infection in connection with such hemorrhagic conditions. Early in the study of the trouble attention was called to the fatty degenerated condition of the blood vessels, as late a writer as Louis Starr mentioning this. Recently, however, under better examination, this has not been confirmed. No lesions of the blood vessels have been discovered, except in connection with the endarteritis of syphilis. Gärtner has mentioned a bacilli which he states that he recovered from the organs of two cases, and which he injected into the offspring of dogs a few days old, and which produced hemorrhages from mucous membranes. There is a strong belief that the trouble is related to infectious diseases.

Dr. Brown knows nothing further about the disease, except that convulsions occur with it occasionally, and especially late in the trouble. In cases of both sub-normal and elevated temperature the pulse, instead of being increased as the hemorrhage goes on, is extremely slow. In this case, the last part of the twelve hours

during which the child bled, the pulse remained about 72, which is quite remarkable. That it was a hemorrhage, and not a hemoglobin being discharged in the mucous membrane, as occurs occasionally with some poisons, was demonstrated by microscopical examination of the blood-clots.

The autopsy revealed nothing except that through the lower part of the intestines and also in the stomach, the smaller vessels were injected. There were no ulcerations in the gastro-intestinal tract, nor were there extravasations on the surfaces of the liver, spleen or kidney where they are sometimes found.

These cases of hemorrhagic disease are interesting in connection with their proper classification. At present it is anatomical largely, and an etiological classification cannot be made until we know more of the pathology of the trouble.

Dr. Wm. F. Barbat met with a case a few weeks ago, of a youngster three days old, who started to spit blood. This continued about two days. He bled in very small quantities, but the mother wanted something done for the baby. He had never given such a young baby any medicine before, but he took out a bottle of ergot and gave the baby several minimum doses three or four hours apart, and the hemorrhage soon stopped. Whether it was from the small doses of ergot, he does not know; however, there was no more spitting up of blood after that.

Bacteria of the Vagina and Their Practical Significance.

Dr. J. Whitridge Williams, Instructor in Obstetrics in the Medical Department of Johns Hopkins University, Baltimore, based a paper read at the session (May, 1898,) of the American Gynecological Society on an "Examination of the Vaginal Secretion of One Hundred Pregnant Women." As a result of his investigations in this direction the author presented (*Amer. Jour. Surg. and Gynec.*, Aug., 1898,) the following conclusions:

(1) He agrees with Kronig that the vaginal secretion does not contain either pathogenic streptococci nor staphylococci aurei. Therefore, douching it is not only unnecessary but positively injurious.

(2) The discrepancy in the results of various authorities is ascribed to differences in technic in obtaining the secretion for examination.

(3) As the normal vagina does not contain pathogenic streptococci nor staphylococci aurei, auto-infection is impossible.

(4) If these germs are found in the vagina

during the puerperium, they have been introduced from without.

(5) If the vagina contained streptococci as frequently as stated by Walthard, Valile and Kottman, vaginal examination with the sterile finger would be very dangerous, which is not the case.

(6) It is possible that in rare instances the vagina contains bacteria which may give rise to sapremia and putrefactive endometritis by auto-infection. Such cases, however, are usually mild and do not lead to death.

(7) Death from puerperal infection is due to infection from without and is usually caused by neglect of antiseptic precautions on the part of the physician. In all cases examined, save one, the bacilli found in the uterus were different from those found in the vagina. In one case, in which the temperature was 102.6° F., a short, thick bacillus was found in the vagina before labor and in the uterus after labor, so, possibly, this was a case of auto-infection.

Emergency Operations.

Dr. McAdam Eccles, Assistant Surgeon to the London Hospital, delivered a post-graduate lecture at the West London Hospital (*Indian Med. Record*, July 16, 1898).

To the four classical surgical emergencies—(1) asphyxia, (2) hemorrhage, (3) intestinal obstruction, and (4) retention of urine—a fifth—cerebral compression—must now be added. None of these brooks delay, and in all of them, practically, operation is indicated. Only some salient points of each will be mentioned.

I. *Asphyxia*.—Any tube in the body may have its lumen obstructed by (1) compression from without, or by (2) obstruction from some substance within the tube, or by (3) some thickening of its own walls, chiefly due to new growths or inflammatory products. Pressure on the trachea (which is the tube most commonly dealt with in surgical asphyxia) may be caused from without by a thyroid tumor, for instance, or it may be blocked by a pea or bean or other foreign body that has been inspired—in this latter case a bronchus is more frequently blocked than the trachea—or its lumen may be narrowed by its own walls being thickened by a deposit of membrane such as in diphtheria. Any part of the respiratory tract may be thus occluded and demand immediate removal of the cause of the obstruction. This may either be impossible or may consume too much time while the patient is dying for want of oxygen. Failing to get rid of the cause, we must overcome the effects of the

blocking by making an artificial opening, if possible, below the site of the obstruction. This may be done by (1) high or (2) low tracheotomy, (3) laryngotomy, or (4) laryngo-tracheotomy. Though the last operation is most suitable for children, still the first has often to be performed in an emergency without adequate assistance or a plethora of instruments, and very likely in a house in which there is a great deal of confusion.

The instruments essential for high tracheotomy (*i. e.*, above the isthmus of the thyroid gland) are: A *sharp* scalpel, a pair of dissecting forceps with a good spring, several pressure forceps for temporarily arresting bleeding, a pair of blunt hooks, a trachea dilator. All these should be scrupulously clean and sterilized just before use; so, if there be a kettle on the fire in a sick room, just drop your instruments into the kettle.

While your instruments are boiling, loosen the patient's clothing and wash his neck with soap and water and an antiseptic, if any be at hand. Spirits of wine is often in a house, and is a good emergency antiseptic to use. Then wrapping a towel or a shawl round the upper part of the trunk, so that his arms may be bound to his body, place the patient on his back on a table in a good light—with his neck extended as far as possible and his chin and sternum in the same line; so that the structures in the middle line become tense and, possibly, the superficial veins slightly emptied.

If the patient is completely unconscious, no anæsthetic is needed; but if otherwise, and neither cocaine nor eucaine be available, a little chloroform will help to overcome the spasm of the glottis. Now, standing on the *right side* of the patient, make an incision well up on the larynx in the middle line, starting from the lower border of the thyroid cartilage and continuing it downwards for at least 1.5 inch. Never rest your elbow on the chest of the patient, whose violent efforts at respiration will shake your elbow and spoil the operation, which should be performed promptly and quickly, but studiously avoiding hurry, and always keeping in the middle line, unless the trachea has been pushed aside by a tumor, when its true position must be made out and the trachea steadied with the left hand, while the incision, deepened through the subcutaneous tissue to expose the muscles, which must be carefully separated from each other in the middle line, and all bleeding points seized with pressure forceps. Remember the venous bleeding, which is really due to engorgement of the right side of the heart by the respiratory ob-

struction, rapidly ceases when the trachea is opened. The deep cervical fascia lying across the upper part may cause a little trouble, but the best plan is to divide this fascia vertically and go right down through the isthmus of the thyroid gland, though, in patients exceeding 10 years of age, it is better to divide the deep cervical fascia transversely and drag it (and the isthmus of the thyroid gland) downwards. As soon as the whitish rings of the trachea are *clearly seen and definitely felt*, plunge the scalpel, with its cutting edge towards the chin, into the trachea in the middle line and incise upwards through the first two rings of the trachea and through the middle of the cricoid cartilage in infants. The trachea being opened, and the edges of the wound held apart by the blunt hooks, clear out as much as possible of the obstructing membrane by picking it off with the dissecting forceps or by twisting it on to a feather moistened with bicarbonate of soda. Some suggest that the membrane should be sucked up. When the trachea has been sufficiently cleaned out, the tube may be placed in position and the wound treated antiseptically.

II. *Hemorrhage* demands prompt attention, no matter what its cause or origin. Leaving injuries, etc., aside for future consideration, let us confine ourselves to one of the means for overcoming loss of blood, whether from so-called rupture of a varicose vein or *post partum* bleeding. To overcome the collapse produced by the diminished blood pressure, owing to the unfilled state of the vessels, the former practice was to (1) either directly transfuse the blood from one person into the veins of another, or (2) blood was taken from the giver into a bowl, then defibrinated and passed into the veins of the receiver; but both these methods are open to serious objections and the grave risk of sub-sequent embolism.

It is now recognized that all that is needed is a fluid of such a nature as will not injure the blood of the receiver, and the details of the method are as follows: The skin over one of the subcutaneous veins at the bend of the elbow or on the dorsum of the foot having been rapidly and thoroughly cleansed and the vein cut down on and divided transversely, a cannula (preferably of vulcanite) is passed into it and tied into position. To the cannula is attached some two feet or more of rubber tubing provided with a funnel and a clip to control the flow. Through this funnel is introduced, by hydrostatic pressure from a height of about eighteen inches, sufficient warm water containing common table salt in the proportion of a teaspoonful to the pint, or a more elaborate

fluid made by mixing sodic chloride grs. 50, potassic chloride grs. 3, sodium sulphate and carbonate *aa* grs. 25, and sodium phosphate grs. 2 in one pint of boiled water. At least 30 ounces (sometimes several pints) of either of these fluids, maintained at 100° F., are transfused into the veins of the receiver as a temporary measure to increase the tension in the vessels and so enable the heart to continue its action until the patient is able to form fresh blood to fill the vessels. If the necessary apparatus is not available, and the heart is still beating with fair strength, the fluid may be rapidly absorbed into the vessels and the blood pressure increased by injecting about half a pint of fluid into the rectum, or the fluid may be introduced into the cellular tissue on the surface of the scapula.

III. *Intestinal obstruction* is too large a subject to be dealt with here, but delay in treatment by operation is to be deprecated, and herniotomy is certainly preferable to taxis in the majority of cases of strangulated hernia.

IV. *Retention of urine* often causes very painful and dangerous distension of the bladder, which is only partially covered with peritoneum on its upper and posterior part. The bladder may be entered, without injury to the peritoneum, through (1) the urethra, (2) just above the symphysis pubis, and (3) through the rectum below the reflection of peritoneum. The last method is open to several objections, and where entrance is impracticable *per urethram*, the bladder may be reached by supra pubic aspiration, to do which first shave and wash the pubic region, after which make a small incision in the skin in the middle line just above the symphysis. Puncture the bladder through the incision with a fine trocar and cannula attached to the aspirator bottle. The puncture should be made downwards and backwards towards the tip of the coccyx and the amount of rarefaction in the bottle should be slight. Repeated aspiration does very little harm, provided a small trocar and cannula are used.

V. *Cerebral compression* may be due to (1) depressed fracture, (2) extra-dural hemorrhage or the presence of pus either (3) extra-dural or (4) intra-cerebral. Operation is imperative, as it is an emergency in which prompt operation may make all the difference between life and death, and in the majority of cases the operation consists of trephining and removing the cause of the compression.

Military Quarantine Against Yellow Fever.

The risk of importing yellow fever with the returning troops must not be minimized, and this is evidently the view taken by the Gov-

ernment. The War and Treasury Departments have both adopted stringent rules for controlling the transportation of the soldiers from Cuba to the United States. The Secretary of War has requested the Secretary of the Treasury that the medical officers of the Marine Hospital Service be assigned to duty as sanitary inspectors in Cuban and Porto Rican ports and on board the transports. Each transport is to carry one such inspector, who is to be responsible for the sanitary condition of the vessel and the health of the crew. The military surgeons will only have control of the troops on board. Detention-vessels will be established at the various ports for persons seeking to return home. The effect of having a medical officer of the Marine Hospital Corps as a sanitary inspector on each transport will be, according to Surgeon General Wyman, to avoid the necessity for disinfection on the vessel's arrival in this country, provided no yellow fever has broken out on board during the voyage. The Secretary of the Treasury has given necessary orders to the Marine Hospital Corps for securing these provisions.

Surgeon General Wyman has accordingly issued a circular to the medical officers of his corps containing full instructions for their guidance. Their duties are to keep the transports from becoming infected. They have full authority, and as they are trained experts they will doubtless leave no duty undone or precaution neglected. They can prevent the crew going on shore and have control of full disinfecting outfits, such as steam-chambers, boilers, sulphur furnaces, formaldehyd-generators, and a large quantity of disinfecting material. Each medical officer is instructed to carry out the spirit of the rules, if not the exact letter, whenever it may be impossible to enforce them exactly, and thus he is given leave to use his discretion, unhampered by red tape, should unforeseen emergencies arise.

In addition to these rules governing transports, strictest quarantine regulations will evidently be carried out at the hospital camp at Montauk Point. The medical department of the army has had all too short a time to prepare this camp, but we have faith in both the executive skill and devotion to duty that will further and control this great military enterprise. According to reports, this camp will be the largest of the kind ever established in this country north of Gettysburg. When it is considered that it is to be not only a camp but a great hospital, the vastness of the scheme, and the responsibility involved, will readily be appreciated.

The prompt and intelligent action of the

War and Treasury Departments, as here outlined, shows clearly how keenly alive the Government is to the needs of the occasion. That it may succeed in every detail is sincerely to be hoped, and to this end its hands should be supported by all good men.—*Phil. Med. Jour.*, Aug. 20.

Medical Department of the Army.

[In view of the too hasty criticisms of some concerning the Surgeon General United States Army with reference to mismanagements, we take great pleasure in reproducing the following letter which thoroughly exonerates Dr. Sternberg:]

"WAR DEPARTMENT,
"SURGEON GENERAL'S OFFICE,
"WASHINGTON, August 16, 1898.

"To the Editor of the Philadelphia Medical Journal:

"My time is too much occupied with important official duties to justify me in paying any attention to my numerous non-professional critics. But I will take time for a brief reply to some editorials in medical journals which intimate that I owe an explanation to the profession with reference to my management of the Medical Department of the Army.

"I will say, first, that every Army Corps and every camp has a Chief Surgeon, who is responsible for the administration of medical matters upon the spot, and whose duty it is to see that timely requisition is made for medical supplies and necessary assistance. I have made every effort to comply with all demands of this kind, and to anticipate, so far as possible, the wants of our soldiers in camp and in active service. Ample supplies were sent to Tampa for use of the Fifth Army Corps, and I am not responsible for the fact that these supplies were not landed at Siboney. Nor am I responsible for the condition of the transports leaving that place with sick and convalescents. Government transports are under the orders of the Quartermaster's Department; but when they are to carry sick soldiers it is, no doubt, the duty of the Medical Department to see that they are properly supplied with medicines, medical attendance and competent nurses. Circumstances may, however, make it impossible to accomplish this manifest duty. Whether such conditions existed in front of Santiago at the time the Seneca and the Concho sailed, is a question which every one who has read the newspapers may decide for himself. But certainly I could not have had supervision over these transports from my office in Washington.

At the time they sailed General Shafter's chief surgeon had broken down in health. In a letter recently received from Lieut. Col. Pope, he says:

"As I cabled you, I was relieved from duty as Chief Surgeon on July 23d because of continued ill health. General Shafter was good enough to do this, and since then I have been resting in camp, hoping to get into condition again, if possible. My collapse seems to have been the result of a partial sunstroke, which left my brain entirely unable to think or plan or recollect, and, of course, unequal to the heavy responsibilities of my position."

"Very truly yours,

"GEO. M. STERNBERG,
"Surgeon General U. S. Army."

Nitrous Oxid Mixed with Oxygen for Brief Anesthesia.

Gardner (*British Medical Journal*, April 30, 1898), has had such good success from the use of a mixture of nitrous oxid and oxygen for inducing brief periods of anesthesia, twenty minutes or less, that he cannot recommend it too highly. The symptoms accompanying inhalation of nitrous oxid alone are cyanosis, jerky, rapid breathing, twitching of the limbs, and dilated pupils. These objectionable results are avoided by the admixture of oxygen, and a little practice enables the anesthetist to administer the gases in the right proportions. If the breathing grows faster and deeper and the color a trifle dusky, more oxygen is wanted; if quieter and slower, the oxygen must be reduced. At the beginning of the inhalation the patient is given only 2 or 3 per cent. of oxygen, but this amount is gradually increased until 10 or 20 per cent. is reached. The color is normal, the breathing of a softly snoring type, not so stertorous as with ether, not so quiet as under chloroform; the pulse is strong, full, and regular; the abdomen is generally quite flaccid, but the limbs may show a slight tendency to rigidity; though the legs will offer no resistance to being placed in the lithotomy position, they may show slight reflexes from time to time. The blood from an incision during this anesthesia may appear somewhat venous at intervals; this is not, however, due to congestion, but to the fact that nitrous oxid to some extent replaces oxygen in the hemoglobin and the purple color of the new product becomes evident in the flowing blood, even while the facial color is healthy in appearance. Alcoholic patients are not good subjects, nor are very powerful athletic men; but most women and well-nourished persons generally can be regarded

as suitable cases, while those who are weakened by illness often take the gases remarkably well.—*Medical News*, August 20, 1898.

The Immunes are not Immune.

The fact that a number of men, who had survived an attack of yellow fever, enlisted and went to the front with the full assurance that they could face the dread disease with impunity, have been attacked with yellow fever, and some of them even died from it, has put a new phase upon the significance of the word immune. It is quite possible that life in a northern climate so renovates the system after an attack of yellow fever as to interfere with the proper balance between the toxins and anti-toxins, and so destroys the security against a second attack. If this proves to be the case, it will be necessary to secure an immune army from the ranks of men who have continued to live in a tropical or semi-tropical climate after the first yellow fever attack.—*Medical News*, August 20, 1898.

Book Notices.

System of Practical Medicine by American Authors. Edited by ALFRED LEE LOOMIS, M. D., LL. D., Late Professor of Pathology and Practical Medicine in New York University; and WILLIAM GILMAN THOMPSON, M. D., Professor of Medicine in Central University Medical College, etc. Vol IV. *Diseases of the Nervous System and Mind—Vasomotor and Tropic Disorders—Diseases of the Muscles—Osteomalacia—Rachitis—Rheumatism—Arthritis—Gout—Lithæmia—Obesity—Scurvy—Addison's Disease.* ILLUSTRATED. Lea Bros. & Co., New York and Philadelphia. 1898. Library cloth. Large 8vo. Pp. 1,120.

If publishers could agree between themselves to bring out their great *Systems* on the same subjects in succession, instead of crowding all by different publishers into practically the same period of issue, they would secure for such works a larger sale and greater profit. But when several such exhaustive works by different publishers come out in regular order about the same time, many doctors must forego the purchase of more than one such *System*—however much they would like to have all, and probably would subscribe for them if a sufficient interval of time elapsed between the issue of different *Systems* to allow them to refill their wallets.

We are led to this reflection because we sym-

pathize with any doctor who, by reason of an existing subscription to another *System of Medicine* is, for the time, financially unable to procure the great work now under notice. The present volume is a specimen of the excellence of the *System*. The article on each of the subjects named in the title has a master for its author; and each article has all the information in a more condensed form than usually is contained in a monograph. In short, we could not speak too highly of the merits of this volume. Special care is manifest everywhere in the preparation of the sections on diagnosis and treatment. About 900 pages are taken up with Diseases of the Nervous System and Mind. We repeat the regret that in a *System* by American authors, none of the authors selected to prepare any article in this volume are from south of the Potomac—although we think we could suggest some in the South as able to make contributions as some of those chosen for authors whose names are as unfamiliar to the Southern profession as may be the names of able Southern authors to the profession of the North.

Atlas of Syphilis and the Venereal Diseases.

By PROF. DR. FRANZ MRACEK, of Vienna. *Authorized Translation from the German.* Edited by L. BOLTON BANGS, M. D., Late Professor of Genito-Urinary Surgery and Venereal Diseases, New York Post-Graduate Medical School and Hospital, etc. *With 71 Colored Plates.* Philadelphia: W. B. Saunders. 1898. Cloth. 12mo. Pages of Text, 122—(more than two-thirds of the book being taken up with Plates and Descriptive Text on opposite page). Price, \$3.50 net.

This *Atlas* (of the famous series of *Lehmann's Medizinische Handatlasen*), unlike some of the others of this series, includes "a *Brief Treatise on the Pathology and Treatment*" of Syphilis and the Venereal Diseases, which makes it valuable also as a text-book. The different appearances of the chancre, chancreoid, etc., in different locations, are all shown by chromo-photographs of cases under actual observation, and a brief description of each such photographed case is given on the facing page. Gonorrhœal and other venereal diseases are likewise illustrated. To the young doctor, especially, in private practice, this volume would prove of the greatest service. Nor could the teacher anywhere find for his pupil a set of photographs so excellent at a price so moderate. The part of the text which treats of the pathology and treatment of syphilis and the venereal diseases is most valuable. Details of treatment—including formulæ for prescription, etc.—are clearly given. It would be hard to find a more perfect book of the same scope.

Atlas and Epitome of Operative Surgery. By DR. OTTO ZUCKERKANDL, Privat-docent in the University of Vienna. *Authorized Translation from the German.* Edited by J. CHALMERS DA COSTA, M. D., Clinical Professor of Surgery in Jefferson Medical College, Philadelphia, etc. *With 24 Colored Plates and 217 Illustrations in the Text.* Philadelphia: W. B. Saunders. 1898. Cloth. 12mo. Pp. 395. Price, \$3 net.

After examining this *Atlas* (which is one of the world famous *Lehmann Medicinische Handatlanten*), one feels as though he had been passing through a course of clinical lectures by a great author, and he is tempted to feel that operative surgery is made easy. We cannot suppose that plates could be more graphic or verbal description of the text more easily intelligible. Of course, nothing of diagnosis nor description of disease or injury is attempted. But the object of the *Atlas* is to enable the eye to catch every essential procedure of an operation—from the amputation of a finger to the application of Murphy's button. All the ligations are described by text and picture, and even down to the minutiae of applying a ligature or taking stitches of various kinds. While the book is admirably well adapted to the wants of the general surgeon, it is no less valuable to the teacher in medical schools of operative surgery. So thorough in every description was the original work that the American Editor had little else to do than to revise the translation and to superintend the publication. The text of this *Atlas* is like that of other books, and the plates come in where needed to illustrate the text.

Lectures on Tumors. By JOHN B. HAMILTON, M. D., LL. D., Professor of Surgery, Rush Medical College and Chicago Polyclinic. *Third Edition.* 21 Illustrations. Philadelphia: P. Blakiston, Sons & Co. 1898. Cloth. Large 12mo. Pp. 143. \$1.25 net.

There will long remain a professional demand for such a work as this, written in the easy lecture style which gives latitude for description that is not accorded more technical works. As a help to diagnosis in given cases, too much cannot be said in its praise. The classification is according to the recent revisions of the Royal College of Physicians and the American Medical Associations, and a study of the pages on classification affords a wonderful degree of help in separating in doubtful cases malignancy from benignancy. A mastery of this little book would be a most valuable help to any practitioner. Designed also for a class recitation book, it fully meets the purpose for the class room.

Manual of Physical Diagnosis for the Use of Students and Physicians. By JAMES TYSON, M. D., Professor of Clinical Medicine in University of Pennsylvania, etc. *Third Edition, Revised and Enlarged, with colored and other Illustrations.* Philadelphia: P. Blakiston, Son & Co. 1898. Cloth. 12 mo. Pp. 278. \$1.50 net.

As valuable a *Manual* as was the second edition, so much new matter has been added in this third edition as to make it a most desirable volume for practitioner as well as student. The more frequently one examines its pages the more satisfied is he with it as a truly *multum in parvo*. It deals with the latest suggestions of authors, utilizes all the instruments—recent or old—of precision wherever needed for diagnostic purposes, describes processes and methods of procedure so well as scarcely to require the diagram to illustrate, and is withal very complete in all that is apt to come up in the rounds of the busy practitioner. It serves equally as well the other purpose for which the book was originally designed—that of a class-room guide. No doctor can go wrong in investing \$1.50 in this work if he will master its teachings or refer to its lessons whenever necessity may require a further study of a case having physical signs to guide in diagnosis.

American Eclectic Materia Medica and Therapeutics. By JOHN M. SCUDDER, M. D., Late Professor of the Principles and Practice of Medicine in the Eclectic Medical Institute of Cincinnati, etc. *Twelfth Edition.* Cincinnati: The Scudder Bros. Co. 1898. Cloth. 8vo. Pp. 743. Price, \$4.25; Sheep, \$5.

The "eclectic school of practice"—springing up, so far as this section of country is concerned, as the successors of the "Thomsonians," do not use mercurials, but depend mostly upon the vegetable kingdom for their drugs. This "school" has done much good in the direction of studying out the questions of specific medication, and has brought to the attention of the medical world many valuable remedies. In this day of wonderful advances in medicine, when some of the discoveries seem to contradict any of the doctrines advanced for their explanation, we cannot understand why there should be any sects. The regular profession ties to no "pathy," but is at liberty to resort to any agencies that promise to cure disease—theory or no theory. It first seeks to establish the fact that the agent is beneficial, and then seeks the explanation. It strives to prove all things—"holding fast to that which is good."

We were a little surprised in the chapter on

anæsthetics—in the section referring to the history of anæsthesia—to find no mention of the discovery and use of ether as a surgical anæsthetic by the late Dr. Crawford W. Long, of Athens, Ga. In the chapter on antiseptics, many well proven and safe agents are not even referred to. These omissions, and others like them, are grave errors in a book that is presumed to be up to the times. But as one goes over the pages of this book he will learn much of drugs that can be turned to good account at the bedside. Throughout the work, there is the evident intent to bring out a remedy of value for each morbid condition. We are sorry to see a work of such merit marred by hasty printing office work. Thus the “running heads” are sometimes first on an odd page and then on an even page—keeping the eye of the reader dodging first from one side of the book to the other. Then, again, the repetition of “Eserino,” “Ether,” “Eugenia pimenta,” and “Euonymus,” on page 744—just as it was on page 741—is almost inexcusable in a *twelfth* edition. But these mars do not affect the vast amount of information to be gathered from a careful reading of the book.

History of Yellow Fever. *Indisputable Facts Pertaining to its Origin and Cause. With an Addendum on its Twin Sister, Dengue.* By W. L. COLEMAN, M. D., Houston, Tex. 1898. The Clinic Publishing Co., Station X, Chicago, Ill. 12mo. Pp. 140. Cloth, \$1; Paper, 50 cents.

The author of this book has had active practice in the South for forty years, in which time he has passed through several epidemics of yellow fever. He presents reasons “going to show the possibility of its complete extinction from the globe; its nature, anatomical characteristics, symptoms, course and treatment,” and follows this subject up with a few paragraphs on *Dengue*, to show its difference from yellow fever. Recognizing that yellow fever regularly disappeared from the Northern coasts of America as the filthy slave trade receded South, our author attributes the introduction of yellow fever originally to the human filth connected with that trade. The Pacific coast of the United States was never visited by the scourge because slave ships never traded on that coast. Havana was a common port for the incoming African slaves. Indeed, our author asserts, “The only spot on earth where it can now be truly said to be indigenous and capable of constant reproduction is in the foul and offensive waters of the low land locked, almost tideless and stagnant bay of Havana, with its one

single, narrow outlet.” Yellow fever is not contagious from the person. But even an immune, coming into a favorable section for the occurrence of the disease, is a source of danger to others if he comes to them in the same suit of clothes that he wore while in the infected district, and particularly when he brings a trunk of clothing packed in that district. If canals were cut and the Gulf stream turned into the bay of Havana, so as to wash out the infected mud, he believes Havana or any similar place can be made healthy as to yellow fever. The book is full of historic interest and suggestions as to how to rid the world of this pestilence of our Gulf and South Atlantic coasts.

The *Addendum* gives a table of differential diagnosis between yellow fever and dengue.

Diseases of Women—A Treatise on the Principles and Practice of Gynecology. By E. C. DUDLEY, A. M., M. D., Professor of Gynecology, Northwestern University Medical School, Chicago, etc. With 422 Illustrations, of which 47 are in Colors and 2 Colored Plates. Lea Brothers & Co., Philadelphia and New York. 1898. Cloth. 8vo. Pp. 637.

The multiplicity of books on the same subject, issuing from the press, oftentimes makes one wonder how there can be demand for all of them. But, on examination, we find that each of the good books has something new or suggestive which gives to it a special value. In the book before us, we find many old facts told in such a way as to make it an exceedingly desirable book. The profusion of illustrations adds greatly to its practical value. The classification of diseases is pathological rather than regional. For instance, uterine infection and the causal or resultant infections in other parts of the pelvis are discussed consecutively rather than simply taking up regional diseases. Matters that relate to the effects of tight lacing or corsetting receive the attention of a full chapter, which is amply illustrated. In operative gynecology, we find the fullest amount of description, and practical hints abound. A real value of this book is its careful analysis of the work done in the office, from which lessons of practical importance are learned. In short, no book devotes more attention to the office gynecological work of the doctor. Were we to look at this feature alone, there is an abundance of merit to recommend it for frequent consultation.

Editorial.

AMERICAN REGULAR MEDICAL COLLEGES.

Which One Must We Recommend to Prospecting Students?

We present our readers herewith a list of regular medical colleges, which allows them an ample number from which to make a recommendation to any prospective student. We note with pleasure the very decided stand each of these colleges is taking with reference to a more advanced education of the pupil, so as to bring into the ranks of the profession only the worthily graduated doctor. The graded course of instruction is now very generally adopted, and there is a growing tendency to the full four years system, required of colleges that are members of the Association of the American Medical Colleges. The lengthened sessions of those colleges which adhere to the three years graded course in great measure afford ample opportunities for the full course of instruction required by some of the four year colleges of shorter sessions.

We are not so extreme in our advocacy of the four years term as are some. While it is undoubtedly true that the majority of students should enter medical colleges under the four years' curricula, it is likewise true that there are not a few in each college who can graduate with credit to themselves in three years. It would be a hardship upon these quicker-minded young men to hold them back by a compulsory four years' term. For others not so quick to appreciate lessons taught or books read, a four years' course *should be recommended*.

A great deal of idle talk has been going on as to the effect of the resolution adopted by the American Medical Association during its recent session in Denver, which "gives notice that hereafter no professor or other teacher in, nor any graduate of any medical college in the United States which shall, after January 1, 1899, confer the degree of doctor of medicine or receive such a degree, on any conditions below the published standard of the Association of American Medical Colleges, be allowed to register as either delegate or permanent member of this Association." If such a resolution were constitutional and could have the effect of law, it would at once disrupt the American Medical Association. It is foolish in that it undertakes to drive the minorities from Fact ulties who are more or less advocates of the four years sessions. It is impracticable in that it may rob every or any regular medical so-

ciety in the country now loyal to the American Medical Association of the right to send delegates of its choice to the National Association. It is unjust to Americans in that it in no wise prohibits foreigners who may graduate at less than four years colleges from becoming members of the American Medical Association. It is impolitic in that it attempts to coerce in a matter where just and reasonable differences of opinion may exist. It is absurd in that it expels from membership of the Association some of the officers it has just elected. This resolution could only have been "adopted unanimously" by being rushed through before its startling ridiculousness, as it affects the *American Medical Association*, could be appreciated. So that it is idle to speak of the bearings of this resolution upon the Faculties or graduates of reputable medical colleges anywhere.

We have not criticized this resolution thus because we are opposed to the required four years' course of instruction as adopted by many colleges. On the contrary, with the rapid strides being constantly made in advances in medical and collateral sciences, we believe all regular colleges will soon see it to their interests to adopt at least four years' courses in order to get over their curricula. Hence, we approve all laudable efforts of the *Association of American Medical Colleges* to educate the profession up to a knowledge of the demand of the times. But we cannot do otherwise than censure the *American Medical Association* for its precipitate action. Its highest function in such a matter is to commend the purposes of the College Association to the attention of the profession, and thus give moral help to the end in view. It transcends its power to legislate in the manner attempted.

Leaving discussion of this resolution aside, because it can have no effect upon the future of the worthy graduate of any reputable medical college of this country, we come now to present the claims of each of some of the most important medical colleges in the country. Further information about each of them can be found by referring to the advertising department of this journal after "reading pages":

THE MEDICAL COLLEGE OF ALABAMA. Mobile.

Is also known as the *Medical Department of the University of Alabama*.

This institution (founded 1859), noted for its splendid equipments of material and appliances for instruction, offers a graded course of study which covers a period of three years. Its magnificent museum has few equals in this country. Every facility is offered for practi-

cal work in Anatomy, Histology, Bacteriology, Pathology, and Obstetrics. The presence of a large and fluctuating population insures an abundant supply of anatomical and clinical material. The genial winter climate of Mobile seems peculiarly adapted to earnest, uninterrupted mental work. The South is justly proud of this institution.

CHATTANOOGA MEDICAL COLLEGE, Tenn.,

Is the Medical Department of Grant University. Its specially planned, commodious buildings are not excelled by any in the country designed for medical teaching. Its location is in one of the most delightful sections of country—whether as a summer or winter resort. Practically speaking, this College has sole control of all the clinical advantages which Chattanooga, with its many enterprises, affords. In its nine years of existence, the Chattanooga College has made steady headway until now it ranks high up in the list of the best medical colleges of the country. Its patronage has been systematically built up until it stands as the equal of any in character of student.

MEDICAL DEPARTMENT, UNIVERSITY OF NASHVILLE, Tenn.

The effort of the Faculty of this institution to maintain the reputation which their predecessors gave it is fully rewarded. The Medical Department has kept in constant view the value of thorough drilling of its students in all the details of the laboratory, the didactic, and the clinical courses. Special attention is given to personal instruction—believing that the nearer the teacher can get to the student, the better he will understand his wants, and the more intelligently meet the case. Hence, the exceptional records which the graduates of this University secure before the Southern Medical Examining Boards—especially those of Tennessee, Kentucky, Alabama, and North Carolina.

VANDERBILT UNIVERSITY, MEDICAL DEPARTMENT, Nashville, Tenn.

This is one of the few medical colleges of the country, the endowment of which is sufficient to provide for its complete equipment—due to the munificence of the one whose name it bears. Its Faculty is well selected for individual ability, and each one has perfected himself as a teacher by long experience in his special department. This institution has long been in the lead of colleges that look to advances that are not novelties. Beginning 1899, it commits itself to either a lengthened course of eight months for three years, or by requiring four sessions for graduation.

BEAUMONT HOSPITAL MEDICAL COLLEGE, St. Louis, Mo.

This institution conducts a three years graded course, the fourth year being optional. Especial stress is laid by the Faculty on the equipment of the bacteriological, histological, physiological, pathological and chemical laboratories. The supply of anatomical material for dissections and operative surgery on the cadaver is abundant. Unsurpassed clinical facilities are furnished by the city institutions, College Dispensary, Missouri Pacific Railroad Hospital, St. Mary's Infirmary, Lafayette Free Dispensary, and Alexian Brothers Hospital. Every opportunity is afforded for a thorough training in general and special medicine.

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL, Chicago, Ill.

This school maintains the progressive spirit and high standards which have won for it, as the *Chicago Medical College*, such an enviable reputation. In teaching methods, there is an increasing tendency to abandon the purely didactic lecture in the studies of the first two years in the course.

Beginning with this year, Anatomy will be taught at the Northwestern exclusively by means of practical work.

Several new features, of interest to students and practitioners of medicine, may be found in the circulars of information, issued by the College, which can be obtained by application to the Secretary, Dr. N. S. Davis, Jr., 2431 Dearborn street, Chicago, Ill.

THE POST-GRADUATE MEDICAL SCHOOL OF CHICAGO

Has gained for itself a much more than national reputation, so that its matriculates are found from almost all the States and some foreign countries. Its location in Chicago affords the greatest amount of clinical material. Its teachers are among the authors of the day, and, for the most part, the Professors are all well trained in the art of teaching. Those doctors who have gone from this section have returned with words of highest commendation of the school and its methods of instruction.

UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE, New York, N. Y.

The union of the Medical College of the New York University and the Bellevue Hospital Medical College, projected in 1897, has been completed. The united schools will be conducted, on broad university principles, as the Medical College of the New York University. Both schools have been distinguished in the past for the emphasis they have always placed upon practical methods in teaching. Didactic teaching has been combined with recitations

and a large amount of clinical and bedside instruction and practical laboratory work. The methods followed in the past are to be continued and developed to a still greater extent in the future of the combined schools. The college sessions will be in the new building at the corner of 26th street and First avenue, the corner-stone of which was laid in 1897.

LONG ISLAND COLLEGE HOSPITAL, Brooklyn, N. Y.

This college makes no bids for number of matriculates other than the thoroughness of instruction. The honors its graduates have taken before Hospital, State and National Medical Examining Boards, establish its standard. It has the advantages over colleges located in more metropolitan cities, in that while the clinical material of every description is as plentiful, it is more completely at the command of the Faculty. The Hoagland Laboratory, as well as the new Polhemus Memorial Clinic, are parts of the college. While didactic drilling is rigidly maintained, no college presents better opportunities for clinical teaching and physical diagnosis. These things account for its annually large classes.

JEFFERSON MEDICAL COLLEGE, Philadelphia, Pa.

At the corner of Tenth and Walnut, in Philadelphia, an army of workmen are building the new college edifice. The architect has expressed his opinion that, when completed, it will embody every improvement that has been invented for the convenience of students and professors in a medical college. In some respects it will take a stride beyond any yet constructed. When the new one is ready for occupancy, the old building will be removed to give place to a new hospital, already planned. The loss in historical associations will be compensated for in practical convenience and in beauty of architecture.

WESTERN PENNSYLVANIA MEDICAL COLLEGE, Pittsburgh.

Constitutes the Medical Department of the Western University of Pennsylvania. In college and dispensary equipment, thorough provision is made for every detail. Clinical material is abundant in the Western Pennsylvania and Maternity Hospitals and in the Kaufman Clinic Building—all of which are at the command of the College Faculty—so that object teaching forms as prominent a part of the methods of instruction as the didactic lecture course, and the compulsory attendance upon quizzes, etc. Its graduates have almost invariably stood successfully before the various medical examining boards of the country—whether Army, Naval, or State.

UNIVERSITY OF MARYLAND. SCHOOL OF MEDICINE, Baltimore.

This School of Medicine "improves with age." It commits itself fully to the four years' graded course, so as to give more individual instruction to members of the graduating class. The new University Hospital furnishes ample clinical material. Experience has taught that a proper combination of the didactic lecture with clinical instruction is the true way to teach medicine. A matter of self-congratulation by the Faculty is that its graduates meet the highest standards fixed by Boards of Medical Examiners. Nothing in the way of equipment that can help the student acquire knowledge is left unprovided.

THE COLLEGE OF PHYSICIANS AND SURGEONS, of Baltimore,

Will enter upon its 28th Annual Session October 1st, 1898. The requirements of four sessions of six months each in four separate years, was inaugurated in 1894. It is gratifying at this juncture to receive the assurance, that the National Association of Medical Colleges will require all the schools in its membership to measure up fully to this advanced standard.

Clinical Instruction has been made at this school a specially prominent feature in teaching, to a great extent superseding didactic lectures. Each student is personally instructed in chemical and microscopical clinical medicine.

This school has the control of the only institution for the treatment of Hydrophobia south of New York.

COLUMBIAN UNIVERSITY—MEDICAL DEPARTMENT—Washington, D. C.

The facilities of the Columbian Medical School, of Washington, D. C., have been greatly increased by the completion of the new hospital adjacent to the lecture building. This new and neat hospital has a number of private rooms, wards for free patients, excellent facilities for dispensary service, and an operating room which is regarded as a model of the city.

The facilities for laboratory work in this School are excellent. During the past year, a larger number of students were registered in all the departments of the University, especially the medical school, than ever were before. The advantages of this institution and its location in the city of Washington, with the facilities of the Army and Medical Museum and Library, offer an inducement to the student of medicine second to none in this country.

GEORGETOWN UNIVERSITY—SCHOOL OF MEDICINE— Washington, D. C.

This school is located at the National Capital. Lectures, recitations and laboratory instructions are given in the daytime. There are no longer any evening classes. Students can now avail themselves of the valuable collections in the Government museums, libraries and laboratories. The college laboratories are well equipped. Excellent clinical facilities are afforded at the general and special hospitals in the city, as well as at the Georgetown University Hospital, under the exclusive control of the medical faculty, where didactic instruction of the Professors will be supplemented by ward classes and clinical lectures.

INSTRUCTION FOR ARMY, NAVY, MARINE HOSPITAL, MEDICAL EXAMINING BOARDS.

Many of our readers must have noticed the modest advertisement in this journal of Dr. Francis S. Nash, Washington, D. C. Having himself passed the United States navy medical examinations, and being in constant touch by his location in Washington with the medical departments of the army and navy, as also the Marine Hospital service, he is familiar with the wants of these branches of service, and, therefore, knows what to teach, as also how to teach. To the practitioner moving from one State to another where there is a State Medical Examining Board to pass, we could not be of more service than to specially urge him to put himself under the tuition of this able teacher.

THE UNIVERSITY OF VIRGINIA—MEDICAL SCHOOL— Charlottesville.

Has a teaching force of twenty, including Professors, Instructors, and Assistants. The Professors, unlike those of most medical schools, devote their entire time to teaching. *Attention to detail* is the watchword of the school, whether in the clinic, laboratory, or lecture-room. The medical course is a graded one of three years. Each session is of nine months, giving in the course twenty-seven months of instruction. Graduates of this school show a higher percentage of successes before the various State, Army, Navy and Marine Hospital Examining Boards than those of any other school in America. The proportion of medical graduates of the University of Virginia in the regular U. S. Army Medical Corps is 19 per cent.; in the Navy is 20 per cent.; and in the Marine Hospital Service is 26 per cent. In the Volunteer Service their name is Legion.

THE MEDICAL COLLEGE OF VIRGINIA, at Richmond,

Is one of the oldest and best known of Southern medical institutions. Founded in

1837, its aim has always been to keep thoroughly abreast with the many advances in the science of medicine and medical teaching which the past six decades have witnessed. Especially during the last five years has its progressive spirit been evidenced in the improvement of its equipment, the increase in the size of its faculty, and the advanced requirements demanded for admission and graduation. No college in the South is better equipped in every department.

UNIVERSITY COLLEGE OF MEDICINE, Richmond, Va.

The next session of this institution will open on October the first in each of the Departments of Medicine, Dentistry and Pharmacy, with a teaching staff of fifty-six professors and instructors. During the last session there were 284 students present, and the graduates of the past sessions have made excellent records before their State Boards of Examiners, and the outlook for the coming year seems decidedly encouraging from present indications. The annual catalogue, containing eighty-four pages, gives a complete and extended insight into the methods and system employed in this institution. Dr. W. E. Walker, of Pass Christian, Miss., and at present President of the Southern Branch of the National Association of Dental Faculties, has been recently added to the Faculty of the Dental Department of this institution.

THE PRELIMINARY FALL SESSION, UNIVERSITY COLLEGE OF MEDICINE, Richmond,

Conducted by the Adjunct Faculty, was begun August 22. Instruction is being given to quite a number of students in branches which they elect. Note the advertisement. Editorial mention was made of this Preliminary Session in our last issue.

Medical Society of Virginia.

As the day approaches for the Session of the Society next week at Virginia Beach, more and more encouraging reports as to the prospects of a big and prosperous meeting are coming in. The manager of "The Princess Anne," so rumor comes, will have a specially late supper on Thursday night, and the guests may sit up, and talk and toast and eat, etc., till as late an hour as they please. It is evident also that the authorities of Washington had some inkling of the meeting at "the Beach," and, as if in special compliment, ordered up the Atlantic fleets—including the battle-scarred battleships, cruisers, etc.—to be in Hampton Roads during the Session of the

Society—in view of the Beach. [It appears that on complaint of some one, since writing this, only a part of the fleet will be in "the Roads."] If any one attends this Session of the Medical Society of Virginia and does not return home pleased with the provisions made for his comfort, enjoyment, and profit, he must, indeed, be a thoroughly unappreciative person.

Dr. Wm. Lett Harris, Resident Physician at the Beach, deserves special mention for his excellent arrangements; for, though Chairman of the Committee of Arrangements, he has no help, for there are no other doctors *resident* at the Beach. As to the program itself, we refer to it with special pride; for we know of no State Medical Society that has ever issued its superior—indeed, we might say its equal.

The Washington and Norfolk Steamboat Co., and the Chesapeake and Ohio Railway have required the certificate plan—each certificate in a different form. The Recording Secretary has gone over the Register of Fellows to see that each Fellow needing such certificate is supplied. Some railroads have not extended the usual courtesies. Neither the Baltimore and Ohio nor the New York and Norfolk Railroad, running down the Eastern Shore of Virginia, has granted any favor. Parties having to travel over these lines, may possibly be able to secure a customary summer season round-trip ticket to Old Point, Ocean View or Virginia Beach.

Vaccinate Promptly.

It seems singular that in this country there should remain any subjects for variola. The preventive remedy is known and obtainable. Doctors have taught the people until they know for themselves the value of vaccination. True, here and there we hear of some fool who attempts to teach the doctrine that the effects of vaccination are worse than the disease it prevents, and thus influence some ignorant persons from submitting to the operation. Then, again, when all is quiet, and no small-pox epidemic is prevailing, some doctors strangely overlook the vaccination of the young children in their family practices, so that when a case of variola occurs in a community of intelligent people, a stampede, as it were, occurs to the doctors' offices to find out that the last vaccine quill or tube he had has just been used, and delay must result until a fresh supply can be obtained. But if people are kept vaccinated, there is no occasion for alarm. Now we hear of small-pox all round. Cases of small-pox have been recently reported

in Florida, in South Carolina, in Kentucky, in Ohio, etc. Is not such announcement in this day of promiscuous travel sufficient to awaken each doctor to look after the interests of his unvaccinated patrons? Now that there is no rush for vaccine points, because the danger of the variola is not threatening most Southern communities, why not vaccinate at once? We know of no vaccine points more reliable than those of the New England Vaccine Co., who keep their agents in all parts of the country supplied with fresh reliable "points" or "tubes." For Virginia, and the section immediately surrounding it, Messrs. William P. Poythress & Co., 919 E. Main St., Richmond, Va., are the agents of this Company, who are constantly filling orders by telegram or otherwise to those who furnish satisfactory statements to prevent them from financial losses.

Corrections to be Made in Report of Medical Examining Board of Virginia.

The Secretary of the Virginia Medical Examining Board, Dr. R. S. Martin, Stuart, Va., called our attention to several typographical errors in the *Report* as published in the issue of August 12th—especially as relates to the list of Colleges from which graduates have come before the Board since 1884, but, unfortunately, too late for correction. As most of these errors relate to figures, their occurrence can be noted by adding up. Since the Board is to have another session for examination of candidates for license next week—beginning at 9 A. M., *promptly*, Tuesday, August 30th—at Virginia Beach, it has been decided not to undertake the corrections above noted until the Report of the next weeks' session is ready for publication.

A Journalistic Oversight.

By some inadvertence, we failed to make our acknowledgments to the *Medical Register*, of this city, for the courtesy of the use of the electrotypes illustrating the article by Dr. Geo. Ben. Johnston, in the issue of this journal for July 22. If all editors were as intent upon fulfilling the high ethics of journalism that characterizes the work of Dr. Ernest C. Levy, the profession would recognize a power for good in a united medical press that is not common in all medical centres.

Dr. Hunter McGuire.

In response to numerous inquiries as to the health of this distinguished and widely-beloved surgeon, we are glad to announce that he is well, is enjoying his summer at the White

Sulphur Springs, W. Va., and expects to resume his professional duties on returning to this city, after the Springs' season is over. He expects to attend the Session of the Medical Society of Virginia at Virginia Beach next week.

Dr. Robert S. Lewis' Grave.

Friends of this physician, who spared not himself that he might minister to them, are taking steps to appropriately mark his grave at Culpeper, Va. Contributions, from a penny to a pound, to help to erect a modest stone, may be sent to either of the following, all of Culpeper, Va.: Messrs. P. Thomas, E. W. Winfrey, Wallace Lewis, R. F. Booton, or Miss Sue Wigginton.

Military Governor of Santiago.

It is not generally known that Brigadier-General Leonard Wood, who has been appointed Military Governor of Santiago since its surrender, is an active practitioner of medicine. He removed to Washington, D. C., simply as Dr. Wood at the beginning of President McKinley's term of service as his family physician. At the beginning of the war with Spain, he enlisted as a volunteer, and went to the front as the Colonel of the famous "Rough Riders." He was then promoted to the rank of Brigadier-General in the U. S. service, and then commissioned to be the Military Governor of Santiago. The *Medical News* adds that "it is a source of congratulation to the city of Santiago, as well as to our own Government, that a man possessing such eminent qualifications as a sanitarian, should be appointed to the responsibility of Military Governor at this time."

The Kentucky School of Medicine

Seems to be "having a little trouble of its own." It seems that, since some re-elections in the faculty, Dr. Wathen continued to believe himself the Dean, and Drs. Cochran and Boyd thought themselves to be Professors. According to a circular, dated August 19th, in which Dr. Saml. E. Woody signs himself Dean, it appears that the matter in dispute has been brought to the test of a judicial decision, and there now exists an injunction against each of the three gentlemen named from the use of the titles referred to. Dr. Woody is advised that "the final result of the case will be exactly in accordance with this ruling of the court."

Dr. Paul Paquin Vindicated.

It will be recalled that some months ago Milliken & Co., of St. Louis, entered suit against Dr. Paul Paquin, of the same city, for manufacturing and selling *anti tubercular serum*, etc. It is with great pleasure that we note in the *Medical Mirror* that Dr. Paquin has come out the victor in the St. Louis Circuit Court—thus being vindicated after a full trial. We suppose it is now in order for Dr. Paquin to sue the Milliken Co. for interfering with his business, which must have been very seriously injured by the continuance of the suit.

The Red Cross Association

Rendered invaluable services during the recent War. It has no connection with politics, and has only the sympathy of the government. It is a humane Association, intended to heal the wounded, feed the hungry, etc., whether friend or foe, and receives its support from the gifts of the charitably disposed.

The Mississippi Valley Medical Association

Will hold its 24th Annual Meeting in Nashville, Tenn., October 11-14. Dr. John Young Brown, St. Louis, President; Dr. Henry E. Tuley, 111 W. Kentucky St., Louisville, Ky., Secretary.

Obituary Record.

Prof. Dittel

Died in Vienna during the first week in August, 1898, in his 83rd year. Born and educated in Schlesien, he moved to Vienna, where he graduated in medicine in 1840.

Strophanthus for Urticaria, Anæmia, etc.

Ord is authority for the statement that strophanthus (what preparation?) in five drop doses is almost a specific in the chronic forms of urticaria. In the anæmia of young women having cardiac weakness with palpitation, strophanthus is particularly indicated.

To Empty the Bladder.

When partially paralyzed from parturition or other cause, Anderson (*Louisville Medical Monthly*, June, 1898,) says throw a large amount of warm water into the bowel. The bowel and bladder empty themselves at the same time.

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Original Communications.

ADVICE TO YOUNG DOCTORS.*

By LEWIS E. HARVIE, M. D., Danville, Va.,

President of the Medical Society of Virginia; Member of the
Virginia State Board of Health; Former Member of the
Medical Examining Board of Virginia, etc.

When it was suggested to me last August at the Hot Springs, that my name would be offered as a candidate for the Presidency of the Medical Society of Virginia, I entered an earnest protest, and positively declined to stand for so great an unearned honor—one so far beyond my deserts, and which I thought, of right, belonged to others, who had for years borne the heat and burden of the day in advancing the standard of medical education and progress within our borders. However that may be, the Society, in its generosity, having unanimously conferred on me this exalted honor—one which, in my opinion, should neither be sought nor declined—I depend on its members to uphold the hands of its presiding officer, who is entirely unskilled in the mysteries of parliamentary usage, and who never made a public address in his life.

In casting about for a subject, one of the most eminent and successful of our honorary members, a man of world-wide reputation, suggested "that the college professors were so busy cramming science into the heads of the young graduates that they never said a word to them about their profession as a business, and that consequently, medical men were proverbially the worst and most unsuccessful business men in the whole community."

Recognizing the truthfulness of the criticism, I have endeavored to collect a few suggestions for the benefit of the young men who are about to enter the medical profession, to impress them with the fact that their diplomas from their alma mater and certificates

from the medical examining board merely open to them the portals of medical science, and that the art of practical medicine is learned only by accurate observation and knowledge. Success will come to you only by your own personal exertions, tact, and the unceasing study of the fast advancing science of medicine, of surgery its hand-maid, and of the cognate sciences. Each will have to carry out for himself all the details of his work, and the time to learn them accurately, and for them to become fixed habits, is from the very beginning of your professional career. A college diploma simply certifies that you are prepared to enter the practice of medicine—not that you are a full-fledged doctor. Have confidence in yourselves, but don't conclude that you know it all. Your success will, in no small degree, depend on what you learn from the old doctors with whom you are in contact. Treat them with all the courtesy and deference which is so becoming from youth to age, from experience to knowledge. It won't be very long before his appearance will be, to you, as the brightness of the morning sun. You will get into deep waters, and you will find it much better to ask a consultation with him, in some obscure case, than to have it forced on you by your patrons. That old man—rough, perhaps uncouth—will teach you sense, and if he finds you have made a mistake, will cover it up so kindly and so skillfully that you will almost forget it yourself. Thank God, there are a good many of him left in Virginia yet.

As an essential part of your office outfit, provide a case-book and a ledger, and record minutely every case of interest in the one, and charge daily in the other every item of service rendered. Get in the habit of doing these apparently trivial routine matters from the beginning, thereby laying up for yourselves treasures for future reference and use. Learn wisdom of our brethren of the law. They never draw a legal paper, that the first item does not contain a provision, securing their fee before all others. You will find yourselves so con-

* Being the Address of the President delivered before the Medical Society of Virginia in Session at Virginia Beach, Va., August 31, 1898.

tinuously absorbed in caring for the lives of your patients, and will consider their interest and welfare of such gravity and importance, that you will be inclined to neglect your own, and will find it a struggle to compel yourself to attend to the details of your own material interests. Keep your office neat and attractive to the best class of people, and be in it at all times when not otherwise professionally engaged, so that you can render prompt response to those requiring your services. The day has passed when people will wait until this evening, or to-morrow, for a physician; and the one always on hand and prompt will secure the most desirable patronage.

The practice of medicine and surgery is as much a business as any other avocation in life, and in the main, men enter it for the purpose of providing for themselves and their families. It differs, and is more responsible than all other professions in this, that the lives of our fellow beings and their dearest personal interest depend on our knowledge, faithfulness, and skill. To be successful in its pursuit requires unceasing industry and self-denial, and the same business tact and foresight demanded in other secular occupations. It appeals to all that is best and most generous in the hearts of men, is becoming more and more an exact science, and the highest development of art and skill is essential to its successful practice.

The State very properly requires, as a prerequisite qualification to its practice within its borders, a thorough examination in all its branches of medicine and surgery, by a competent legalized tribunal, and no certificate is granted to any unqualified person. This Medical Examining Board of Virginia has been of incalculable benefit to the State, and to the lives of its citizens, in raising the standard of medical education, and should be sustained and its hands upheld by every physician in the Commonwealth.

The most essential prerequisite to success in medical practice is a correct diagnosis of the malady which may affect the patient, and no amount of scientific knowledge will avail until you have acquired the art of giving the patient a thorough physical examination, including an inspection of the naked skin. It is your business to observe the countenance, the color of the skin, the general conformation of the body, the attitude, and to examine minutely every organ separately, and the secretions and excretions from the body. You should make yourselves familiar with the use of all the instruments of precision, including the microscope, ophthalmoscope, and the X-ray appara-

tus, which Dr. Senn reports of such wonderful service in the examination of our wounded soldiers in Cuba. Especially, in every case, give the urine a chemical and microscopical examination. An examination of the throat will often reveal to you an unsuspected specific disease, or the approach of one of the zymotic diseases of infancy. Every patient who comes into your hands is entitled to this careful attention to details, for by this painstaking investigation only are you able to arrive at the correct diagnosis, and to impress him with the fact that you are familiar with your business, and desire to benefit him. Acquaint yourselves with the mental and moral idiosyncrasies of each patient, as well as of his physical characteristics. Gain his confidence by deserving it.

Familiarize yourselves with all the emergencies of general practice, so as to be prepared, when they arise, to meet them with the best and most scientific measures for relief. When emergencies do arise, you will have no time to consult your books, nor one of those grand old country doctors who knows everything. Fix permanently in your minds, by constant study of your surgical anatomy, the treatment for all fractures and dislocations of the extremities; the various hemorrhages, the emergencies incident to maternity—especially convulsions—the use of forceps and version. Especially learn the technique of operations for strangulated hernia, appendicitis, and ligation of arteries. Learn thoroughly the art of general and local anæsthesia. With their skillful use almost all things are possible. Familiarize yourselves with all the details of examinations for life insurance. Honest and skillful men are always in demand by these rich corporations, and the fees derived therefrom will buy your instruments.

Regard each patient as a separate problem to be solved; his disease the corollary. Study well and observe carefully the central nervous and vascular systems which control the nutrition of the body, and meet all local requirements as they arise by appropriate constitutional and well-considered local measures. Be a better specialist than the specialists themselves, in those branches which pay for the time and labor consumed in their acquisition, by doing the work which they profess as well as they do, and a great many other things besides, thus keeping your patrons at home and securing fees which might otherwise go beyond our borders. You general practitioners can do this by hard study and determined effort, if you try.

After practicing general medicine a few years, preferably in the country where you learn self-reliance and to do your own thinking, and have found out your chief deficiencies, attend some of the best polyclinics, to familiarize yourselves with the advances of medical science, and to unlearn those things which have been found out to be false before they become fixed in your minds.

Never under any circumstances violate the confidence placed in you by your patient. It is your duty to protect their personal and family secrets by every means within your power, short of perjury in a court of justice. Your professional character is your chief capital; never permit it to be sullied by an unbecoming nor an unprofessional action. Put your feet down from the start upon the hellish limitation of offspring by the destruction of their unborn children, which is so prevalent at present among a certain class of people. Some one should sound this alarm in no uncertain voice, and who more properly than the watchman placed on the walls of our medical Zion?

From the outset of your professional career, make friends of all reputable and well-educated druggists in your vicinity, and treat them all fairly. As far as possible confine your prescriptions to officinal remedies and formulas, so you may know the effects to be expected from their exhibition. Should you find one not trustworthy, direct your patrons to get their medicines elsewhere. You cannot be responsible for results, unless your remedies are of full strength and are properly compounded.

Having done the best for your patient that conscientious labor and your skill and ability can do, and having safely guided him into the haven of restored health, or soothed his pathway to the tomb, it is your duty to yourself, your family, and to the profession, to see that you are justly compensated for the services you have rendered. Don't wait until he or his friends have forgotten the details of the illness, but at the end of the month, if in the city, and at least every three months if in the country, render a just and true account, charging a full fee for the service rendered. Never charge less than the regular fee; otherwise the inference is that you estimate your services below the market price, because not worth the market price. You are entitled to as high compensation for your services as any other physician in the profession for similar service. Collect your accounts just as every other business man does, so you can pay as you go. The business man—indeed, the whole community at large—will

not respect you unless you collect your bills. If negligent to collect, they will justly infer that you will be negligent also to pay your own debts. Your professional ability, in the main, will be judged by your aptness to accumulate money. If you desire to lose your own self-respect, and that of the community in which you live, work for half-price or for nothing.

You should never decline, however, to give your best service of labor, heart and mind to the deserving poor, especially to the widow and orphans. Always recollect they have God only for their paymaster, and your compensation will surely be full and just for every service of generosity, mercy, and charity, rendered the unfortunate and the needy in His name.

Our prisons, asylum, and homes are filled with the victims of careless and indiscriminate use, by the medical profession, of those twin demons—alcohol and opium—which, save tuberculosis, are doing more to debase and destroy the human race than all the other diseases together. I most earnestly beseech you young men, who are just starting out in life, to stay your hand in the use of these agents, in your own persons, and in your daily work, and to beware of the seductive needle and the cup that inebriates. Make it an invariable rule never to prescribe alcohol nor one of the solinaceous or narcotic drugs, if you can possibly avoid it. The use of alcohol and opium debases the minds and morals of its habitues, predisposes especially to Bright's disease and insanity, and lays the foundation in the offspring for the majority of the neuroses and degenerations of modern civilized life. The physical fatigue of long working hours, loss of sleep, mental strain, worry and hunger, invite the tired physician, especially, to their seductive use. To totally abstain from their use is always business, and very often character, and even life itself. I feel free to speak to you on this subject very earnestly, my younger brothers, for having prescribed alcohol for over thirty years, I am familiar with tendencies and its dangers.

I would particularly advise our bright, cultured, ambitious young men against entering the service as army and naval surgeons, where some of the brightest medical intellects of our country are practically buried, and whose sphere of usefulness is officially circumscribed. What would the world not have lost if those great southerners—Sims and the elder Gross—and those great native Virginians—McDowell and Mettauer of a former generation, and Mc-

Guire and Price of this, had been army surgeons?

While exulting in the fact that so far as high personal character, scientific attainments, and heroism is concerned, the surgeons of our country are unexcelled in the military establishments of the world, there is a very general impression in the public mind, in which I have every reason to concur, that the practical knowledge of our younger army surgeons is not equal to their scientific education. In addition to the admirable theoretical instruction they receive at the military school at Washington, they should each be required, as a prerequisite to their first promotion, to serve daily, for at least a year, in addition to their other duties, in some of the civil hospitals of our cities, six months each, in the surgical and medical wards, in order to learn the practical details of their profession, so as to be fully prepared to do all the operations that the most skillful civil surgeons can do, before being assigned to the active and independent practice as army and navy surgeons. The government is rich, and can well afford to educate its surgeons in the highest art, as well as the theory of their handicraft. What has made the wonderful Dr. Senn perhaps the foremost general surgeon in all the world, except his vast experience in civil hospitals, and his unceasing energy in private practice!

Young men, be great doctors first, and when you get old, if you desire, degenerate into specialism, for the money that is in it.

I deem it proper and justly their due, to thank Dr. Edwards, Recording Secretary, Dr. Styll, Treasurer, and Dr. Winn, Corresponding Secretary, for the industry and faithfulness with which they have performed their respective functions, and in this public manner accord to them all the credit for the prosperity of our Society at this time.

Cocain and Cherry-Laurel Water Incompatible.

According to the *Pacific Record of Medicine and Surgery*, August 15, "Dr. Daclin calls attention (*Med. Mod*) to the incompatibility of cocain hydrochlorate and cherry-laurel water. The cocain becomes precipitated in the form of a cyanide; (cherry-laurel water, as is well known, contains hydrocyanic acid)."

Sanmetto, Listerine and Chloroform.

Three great blessings to suffering humanity — Sanmetto and Listerine being as great as Chloroform. So says Dr. H. Drennan, Verdery, S. C.

THE CORSET, ITS USE AND ABUSE, WITH LACING AND TIGHT LACING.

By THOMAS H. MANLEY, M. D., New York, N. Y.,

Professor of Surgery, New York School of Clinical Medicine.

In the *Virginia Medical Semi-Monthly* dated May 13th, there appears an interesting and valuable contribution from the pen of Dr. W. E. Fitch, in which he summarizes the effects of "tight lacing," and touches on the physiology of respiration, digestion, etc. In epitomizing, the doctor says: "1. The normal breathing of woman is like that of man—abdominal; tight lacing changes the type to costal." The "normal" breathing of woman is certainly not the same as the male, as every physiologist teaches and every physician knows, because the functions are widely different. The enormous distention of pregnancy in no manner embarrasses respiration of woman, nor is the tympanitic inflation of a paretic intestine the terrible source of danger in the female after laparotomy as it is in the male.

In certain females, after delivery, the abdominal muscles have suffered irreparable damage; they waste, stretch and degenerate so that the viscera tumble in a mass over the pelvic brim, producing the "pot belly." Here, surely, the rôle of the abdominal muscles counts for nothing in respiration.

Trauma involving the roots of the phrenic nerves quickly ends life in the male. Mucus accumulates in the bronchi and trachea, but expulsive power is lost, and, with all the auxiliaries called into action, sanguineous oxidation is impossible as the diaphragm is paralyzed. A young woman came under my care some time ago who had a fracture, with displacement of the third cervical vertebra. In this instance, the absence of great respiratory embarrassment was one of the most striking features in the case. It is probable, however, that in both sexes the mechanism is the same during infancy and early childhood. Note the difference in the dyspnoea in a female adult or male with a fracture through any of the shafts of the six higher ribs. With a male suffering from costal fracture, we may find him with great comfort, and he may even go on about his business while under treatment; but with the female, superior costal respiration cannot be hampered with impunity, and the element of a bronchial inflammation is always a dangerous complication.

"2. The pelvic organs normally make a considerable excursion with each respiration. Tight lacing in the upright position checks this motion almost entirely."

Yet, the diaphragmatic plunger keeps the viscera on the move, and also imparts a powerful impulse to the whole circulatory apparatus, as coughing, sneezing, or straining will transmit a most distressing impulse to even an inflamed toe; and "tight lacing," without question, interferes with this, though we must draw the line between "tight lacing" and a comfortably adjusted corset.

It is also stated: "3. Sitting or leaning forward lessens intra-abdominal pressure. Tight lacing in these positions greatly increases intra-abdominal pressure."

"Sitting, leaning forward, or standing" certainly do not lessen intra-abdominal pressure. On the contrary, they most positively augment it. In order to overcome intra-abdominal pressure during operation, not only do we place our patients on their backs, but we utilize Trendelenburg's position to lean the patient *backward*. In bernal taxis, the recumbent posture, with bending the body forward, is always the position chosen. In peritonitis, in order to ease up the strain on the abdomen—intra peritoneal pressure—the patient instinctively takes the position of semi-flexion—a simulated sitting position.

A word for the corset.—It is unfortunate that Dr. Fitch does not define exactly what "tight lacing" is.

If we are to understand or interpret a philippic against "tight lacing" to be tantamount to a wholesale and sweeping denunciation against the use of the corset in general, then we must take emphatic issue on this position.

With all that has been published against the corset, it does not appear that any writer has yet had the temerity to come out and say a word in its defense.

It has long been my conviction, however, that there is no garment in the female apparel more necessary and comfortable than a properly adjusted corset, or "stays," as it sometimes is improperly designated. Along with imparting grace and symmetry to the figure, it likewise is a support and protection. Its great *fort* comes in as a supporter, and, it is my firm belief, if it were worn earlier and methodically in rapidly growing females, we would see many less curved and twisted spines in young grown up women. It takes the super-incumbent off the mid-dorsal spine and conveys it to the broad, strong *crista-ili*, and also imparts a sense of comfort and security.

It wont do to tell us that its use is "unnatural and artificial." And one might as well tell us that the wearing of any kind of clothing is unnatural, because nature does not provide them.

Let us remember two facts of cardinal importance, and it will throw some light on this question. First, that the very attitude of man is unnatural; his spine stands vertically instead of horizontally, as with the lower animal, and thus his upper-extremities, instead of being supports of the back, encumber it, and put a great strain on its weakest and most exposed segment.

The corset shifts this super-incumbent weight from the back to the hips, and enormously supports the upper trunk.

It is not the use, then, but the abuse of the corset which should be condemned from the standpoint of health and physiology. Tight bands anywhere are detrimental, but firmly adjusted ones are auxiliaries of great value. In the times when workingmen wore their broad, strong belts instead of suspenders, ruptures in this class were very rare. Several years ago a noted obstetric teacher denounced the "binder," but my own experience and studies on ventral hernia have convinced me he was in error.

Most women wear the corset as a support; as they say, "to strengthen the back." But a great many more wear it for *fashion*. Woman's conquest over man is maintained by her charms and graces, natural and artificial, and she well knows it.

We might as well tell her to cast aside her diamond pendants, her gaudy headgear and trousseau, as advise her to discard the corset. The demands of fashion in all classes are imperious, but they fall with pitiless rigor on the female portion of the community; so that it is not a question of whether she will or will not wear the corset; if she is to mingle in refined society, she must bend to the dictum of the hour.

Under these circumstances, then, our functions should be, not to condemn the corset, but to improve it, and, regardless of what our former bias or prejudices have been, extend its judicious employment in growing females with a tendency to any degree of spinal curvature.

On the mechanism of corset construction to meet physiological requirements.—In Dr. W. E. Fitch's important contribution on Tight Lacing, etc., he says: "The corset is so constructed that, when worn, it exerts its greatest influence—pressure from about the brim of the pelvis downward, constricting the abdominal walls, the lower part of the thorax, and pushing inward the costal cartilages, often the seventh and eighth overlapping."

The corset which provides the greatest support and comfort exerts the greatest pressure at a much higher level than this, as the great-

est degree of tension is invariably over the "waist," or that area between the sacrum, crista-ili and the floating ribs. Above it the strain is less, and over the lower abdomen the least.

The corset constructed on physiologic principles, as an adjunct of rachidian support and simultaneously combining its prothetic purposes, should be—

1st. Light in weight.

2d. Strong and durable.

3d. It should be so adjusted as to convey the weight of the upper dorsal segment of the spine with parts supported by or suspended from this to the upper border of the broad iliac wings.

4th. The corset should be so constructed as to permit of easy mechanical division, cleansing and readjustment.

Reduced to simple principles, a corset is a sheath, mechanically composed of an integument and ribs—the fabric the integuments, the whale-bone or steel plates, the ribs—practically abdominal ribs—the much abused laces serving as ligaments or muscles. The vertical ribs of the corset should be so shaped and adjusted as to permit ready removal and renewal. The longest and strongest of these should pass up in that space defined by a line passing down from the apex of the axillary space and another line from the mid-dorsal region, one inch to the outer side of the spinous-processes. This should pass down, over the lumbar region, and so slope over the crest of the ilium that the *point d'appui* engage at this site. These are the dorso-lumbar ribs of the corset, the next in importance being the axillary or lateral. These should be shorter, but strong and elastic, for directly under this line the pelvis offers the greatest support. The axillary plates should extend forward as far as the nipples.

We next come to that area where it is claimed incalculable mischief is inflicted by the corset, viz: the sterno thoracic. Here the *point d'appui* in a mal-adjusted corset are the floating viscera and pelvic organs. But when the appliance properly fulfills its requirements, its effects should be rather a substantial abdominal supporter—a supplementary physiological girder. The central *raphe* of the abdomen is composed of dense layers of fibrous tissue, which bind together the lateral supporting muscular envelopes. Over this must lie the approximating plates of the corset. Between the outer margin of these plates and the nipple line should come the third row of vertical ribs in the corset. These must be composed of strong, resisting material *above* in order to be snugly

braced under the projecting mammary gland and the xiphoid cartilage of the sternum, extending as far up as the spinal origin of the sixth rib. The lower half of these plates should be more lightly constructed than the upper, and be so shaped and moulded that no severe downward pressure be brought to bear on the organs below the umbilicus. They should extend well down over the abdomen to the pubic symphysis and the inguinal folds. These two central thoracic segments will each extend far enough laterally to include and envelop the external and internal rings with the entire inguinal canals.

CORSET MATERIALS—PRINCIPLES FOR GUIDANCE IN CONSTRUCTION AND ADJUSTMENT.

We next come to the materials forming the body of the corset and adjusting appliances. Silk, chamois, linen, cotton, or other materials will answer for this; but the most economical and durable is heavy quilled linen, which can be laundried and repaired, as required.

The much abused "laces" are the most important integral parts of a corset. They are to be preferred to any description of buckles, hooks, or buttons, because of the economy of time and the accuracy of adjustments secured through their employment. Posteriorly, nothing can replace or substitute strong cording material, to bind together the vertebral plates of the corset. It provides a series of strong movable links, allowing ample latitude of action over the rachidian chain. These will remain with us as long as the corset.

Great evil comes through awkward or over-tight lacing, and hence, the employment of the lace should be in conformity to some established rule.

If we divide the corset horizontally into three segments, we will have, first, the thoracic; secondly, the upper abdominal, and thirdly, the lower abdominal. Now, in order to obviate the deleterious effects of tight lacing, this should be done in three stages, by three separate laces. The firmest grip must be over the central or waist girth, the next firmest over the thoracic, and the slackest the lower abdominal.

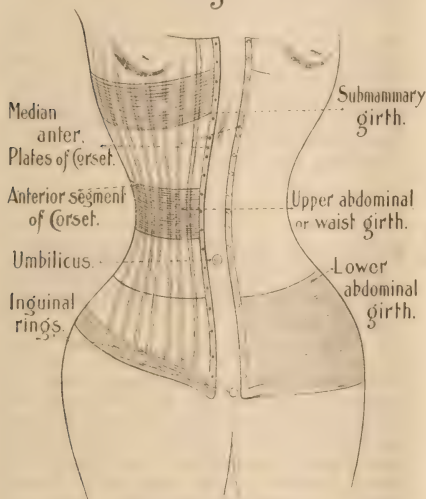
Bands or straps are important auxiliaries of every well made corset. Their use and expediency, however, depend on circumstances in special cases—the individual's physiological state, occupation, or status in society. The lower third of the corset will include a circular girth brought up over the loins, and so secured over the lumbar vertebrae to provide a powerful and most comfortable support, es-

pecially with those who have pendulous bellies; have a tendency to ventral hernia or post-parturient prolapse and atrophy of the abdominal walls.

Straps passing down from the corset to substitute the elastic garters are of great value, as, no doubt, one of the most prolific sources of varix in the female is constriction of the peripheral veins by tight garters. Above, bands may be passed from a well adjusted corset over the shoulders, to draw a drooping thorax into the erect attitude.

The Corset as an Adjuvant in the Treatment of Umbilical, Ventral, or Lumbar Hernia.—The dominant etiological element in all abdominal

Fig. I.



Anterior Aspect.

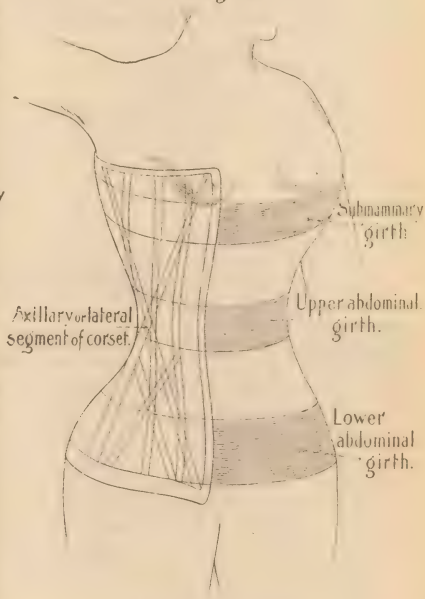
hernia is an elongation or an inertia of the mesentery. All the floating viscera of the abdomen are suspended from the spine through a musculo-membranous bond. When this gives way in any part, there is an enteroptosis or visceral ectopia.

The physiological corset is a *thoracic truss*, and to its abdominal segment may be readily adapted such an adjustment as will comfortably give a support to steady and protect those weakened abdominal areas which produce hernia, and, besides, provide an accessory support to the weakened mesentery, by gently pressing upward the gravid abdomen.

In Pregnancy.—By displacing the anterior vertical plates of the corset, allowing only the axillary and rachidian to remain, and by carrying forward well over and below, a strong broad apron of some light textile fabric, the corset may be employed with great advantage to take the great strain off the abdominal muscles and transmit the weight to the spine.

Many a woman's abdomen forever loses its

Fig. II.



Lateral Aspect.

firm muscular support by irretrievable damage, resulting from an over-weighty, voluminous pregnant uterus. This may be obviated by a proper corset adjustment, the girth on each side of which, being extended from the lateral or axillary line, forward and downward.

As a Mammary Compressor.—In many women, either through the loss of the child or otherwise, nursing must be interdicted. Under these circumstances, it has been found that no therapeutic expedient known, is equal to well-adjusted and continuous pressure for controlling glandular activity and dissipating lactiferous secretion.

Here, again, by the adjustment of the corset, with all the costal stays removed *above* the floating ribs, pressure of any degree may be maintained indefinitely and with the greatest comfort and advantage.

Conclusions.—The wearing of the corset, constructed and adjusted on physiological principles, fulfills two very important purposes: 1st. As a support to the spine, and as a prophylactic against hernia, and, secondly, as a prosthetic agent.

The attitude of man, in the vertical posture—bipedal—in many physiological conditions of the female, render it often desirable and

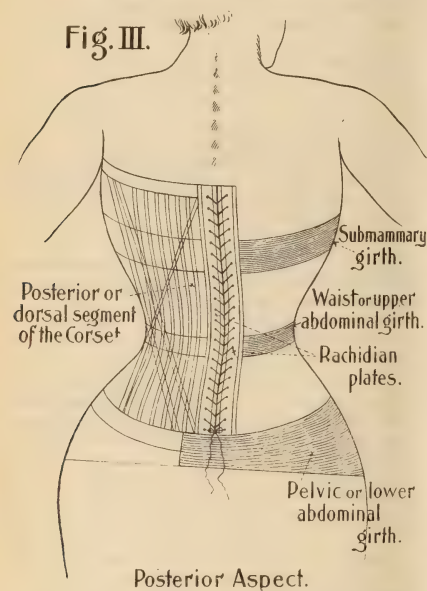
garment, but should rather direct their construction, and permit only those to be worn which fulfill important needs.

In the young, growing girl, presenting signs of rachidian weakening, the corset should be applied early, that the strain may be removed and the weight of the head and upper extremities may be shifted in part to the crista-ili.

A properly constructed, belted corset should not, in any manner, displace the abdominal or pelvic contents; on the contrary, it should give support to weak, relaxed parts, and serve as a most important prophylactic to hernia of every description.

The profession should regard the dress and wearing apparel of women as within the domain of sanitation as much as the food they eat or the abode they inhabit, and hence, with the corset, the blind following of the crowd and joining in the chorus of its condemnation, is neither rational nor expedient; hence, rather than unconditionally condemn the use of it, the physician should illustrate how its abuses may be best obviated and the greatest good derived from its employment.

115 West Forty-Ninth Street.



imperative that the preservation of the centre of gravity be aided by some description of accessory mechanical support.

Spinal distortions, visceral, ectopia, and a great multiplicity of hernias, testify to the penalties man must pay for the erect attitude of the body. As a prophylactic against these, and a means of largely obviating the distress occasioned by them, the corset serves a dual function, and should be utilized in various selected cases in the female.

Physicians should not so much concern themselves about abolishing this highly useful

MEANS OF MEDICAL ADVANCEMENT— HINTS OF PRESENT AND FUTURE—A DEFENSE OF COMMON CRITICISMS BY THE PUBLIC.*

By H. E. JONES, M. D., Roanoke, Va.

MR. PRESIDENT AND FELLOWS, LADIES AND GENTLEMEN,—Allow me to thank you for the honor conferred upon me by you at the last meeting of this Society, in selecting me to address the public and profession, which honor, I assure you, is most highly appreciated. I am cognizant of the fact that it is a most difficult one, and fully realize the difficulty that my twenty-eight predecessors had in selecting subjects that would be interesting in common to a technically educated profession, and a diversely educated public. Hence, in studying the position in which I have been placed, I have endeavored to select a subject that would not mystify that division of my audience, called the public, with a scientific phraseology in its elaboration, nor weary the professional division with a simple phrase-

* Being the Address to the Public and Profession, delivered before the Medical Society of Virginia during its Twenty-ninth Annual Session at Virginia Beach, Va., Tuesday, August 30, 1898.

ology, in elaborating an unheard of subject, that has never reached the ears of a medical man. Tell me what it is that has not reached his ears, nor come to his knowledge? Therefore, I am afraid that I will make a failure in my attempt to the first division, and I feel that I am sure to make one in the effort to the second, as most of them are critics, possessed of a wide range of knowledge that is not surpassed by any other professional class of men.

For my theme, I have selected two or more subjects that will, I hope, be of interest to all present—viz: The means of medical advancement, analogous to the advancement of civilization, in not being dependent upon any one generation, nor upon any one or two distinguished lights of any particular age or generation; hints of present and future—a defense of common criticisms by the public.

We are aware of the fact that, in the distant past, man was an ignorant savage, but, naturally endowed with all the faculties that were necessary for him to become an intellectual and civilized being, as evidenced by his high attainments in the intellectual world and high standard of civilization of this, the nineteenth century—with imagination, intellectual capacity, artistic proclivities, and an eager desire for the acquirement of knowledge. We know, further, that he possessed these necessary faculties in the beginning, and did not have to acquire them through the long and tedious process of evolution from a low grade of animal nature, as that of a monkey, orang-outang, or gorilla, if you please, as some authorities would have us believe. A noted author has proven conclusively that man was not evolved from an inferior animal, and that there is no connecting link between them that our scientists on evolution have been looking for, without avail, for a number of generations. The author referred to, says: "No animal save man ever kindled a fire, cooked a meal, made a tool, nor fashioned a weapon." We also have the authority of the scriptures for saying that man was created in the likeness of the *All-wise Maker*.

It is a well-known and undisputed fact that an average specimen of almost any uncivilized race has the mental capacity, under favorable circumstances and environment, to receive, assimilate, and appropriate the high standard of education and knowledge of this, the present enlightened age. As an example of this, a few years ago, as a matter of experiment on the part of some wealthy experimenters, a young negress, some fifteen or sixteen years of age, was brought to this country from the wilds of

Africa, and given the advantage and means of acquiring an education. The experiment proved to be a success beyond their expectations, as she became an accomplished woman, with a grace and refinement unequalled by many, and an ability to acquire knowledge beyond the average. It is a well-known fact that the American savage—the Indian—is in possession of these faculties, as many of them are proving themselves susceptible of receiving an education in the various academic and professional schools of the country. Therefore, I claim that all mankind in his savage state from the time of his creation, was in possession of all the faculties that he possesses to day, ready and ripe for cultivation. The means and knowledge necessary for his cultivation were not in existence. Being of a social nature, this means and knowledge had to be acquired by his experience in the struggle for existence. The knowledge and experience of the first few generations were handed down to each succeeding one, each one of which in turn improved upon and increased the knowledge of its predecessor. For ages this process was slow and tedious; finally, the dark valley of ignorance was traversed, and the light of knowledge began to dawn upon the lower rungs of the ladder that leads to the present, and beyond the heights of the twentieth century.

When civilization had reached its first stages, and man possessed the means of recording and storing systematized knowledge, and transmitting it by means of books and written matter, it was one of the longest, and probably most important, steps toward higher civilization. From this epoch on up to the seventeenth century, the progressive step was not so tedious and slow as it was prior to the time of man's ability to store and transmit knowledge; but, compared to its advancement in the last century, it was but a snail compared to a modern lightning express; for only in the last century has the grand culmination of this vast storehouse of knowledge placed man upon that plane of civilization which enables him to know the why and wherefore of things, their properties, relations, forces, etc., and the power to utilize for practical purposes the different forces of nature now embraced under the head of science, each one of which in itself is a scientific branch. To further illustrate the rapid strides, I will use in part, as well as I remember, the phraseology of another: "It is a long step from the savage to the scientist; from a hut to a modern palace of a multimillionaire; from nakedness to raiment; from

implements of stone to modern machinery; from a sailboat to a naval monster; from hieroglyphics to a modern printing press; from a pedestrian messenger to an electric wire; from the sandglass to the telescope; from a horn or a trumpet to the telephone that transmits language as swift as speech into listening ears; from a log or pontoons to a wire suspension bridge; from bow and arrow to a rapid-fire gun; from the wagon train and coach to the modern freight and passenger trains." We know that most of these rapid achievements of science and commerce, with their necessary appliances, have advanced civilization in the last half century with a rush and momentum, and to a height unequalled, I dare say, by all the centuries prior to it.

Yet, this is an age of discontent with past and present attainments in science, philosophy, art, and I might say, in every sphere of practical life. The aim of individuals, companies, and corporations is directed to a higher plane and sphere; they strive for advancement in every way possible. All of the progressive and varied forces of civilization continue to uplift the individual, and through the individual, the society, city, state, nation, the world.

Though we are dissatisfied with past and present knowledge, yet, our present high standing is not dependent upon any one generation, nor upon any one or two distinguished lights of any particular age or generation, but, upon the accomplishment and achievements of each and every generation and age back of us, which serves as a foundation for the superstructure, the present and future, which have, and will continue to have difficult heights to overcome, in their onward march toward advancement and each succeeding summit will be higher than the last, and the ascent will be accomplished with the celerity and swiftness of the spring of a tigress in pursuit of its prey, and with the irresistible force of an onrushing avalanche down a steeply decline of a mountain side—

"Others, I doubt not, if not we,
The issues of our toils shall see,
And (they forgotten and unknown)
The young gather as their own
The harvest that the dead had sown."

Just as mankind in the beginning was without the knowledge of civilization, which had to be acquired by his experience in the struggle for existence, so was it without medical knowledge, which had to be acquired in the same way. Therefore, you can well imagine that the beginning of our science was crude indeed,

especially before the time of man's ability to transmit knowledge by means of printed matter. It is a historical fact that the medical knowledge of the ancient Egyptians, as ascertained from their nosology, was but little more than the knowledge of old women in such matters in all ages. It is also known that for many centuries, up to a comparatively recent time, medical knowledge consisted largely of systems, made upon theories instead of facts. It was but an empiric art, and remained so up to the time of the discovery of the circulation of the blood in the beginning of the seventeenth century, which laid the foundation of scientific medicine, to be subsequently based upon facts instead of theories. With this discovery, the different fundamental and primary branches of our art began to loom up in the distance. The first one—physiology—which deals with all the mechanical and chemical functions of the living organisms—in fact, with life itself—was the first step to the observation of the fundamental laws and facts of scientific medicine. It is quite true that, before this time, anatomy, which deals with the structure, gross and minute, of the human body, had received some attention, but had not reached the high standard of perfection of today, and was not considered as important a branch as it is now considered.

It is known to medical men that of all the primary branches it is most important for the student to have a thorough knowledge of physiology and anatomy, as they are the cornerstones upon which the whole structure is to rest.

The third and next important branch is chemistry, which deals with the knowledge of the properties and nature of all the materials which enter into the composition of the world, and of all organized beings, and the changes which affect their bodies, and the elements of which they are composed. When these branches were understood, the art of medicine dispensed with the robe of empiricism and donned the raiment of rationalism, it began to see the why and wherefore of things, and other scientific branches were evolved, based upon facts and laws that stimulated investigation. Pathology, which deals with the processes, causes, and effects of disease was born, and with its birth rational means were sought for the prevention and proper treatment of all known diseases.

The fourth important branch is pharmacology, which embraces the subjects of materia medica and therapeutics, which treats of the use of drugs in the management and treat-

ment of all diseased conditions, as well as their names, characters, chemical and physiological combinations, properties, sources, preparations and doses; and the use of healing by means of every kind, such as electricity, massage, clothing, baths, climate, diet, nursing, and all other means that may be used to restore health, including surgery and surgical therapeutics. They also occupy the position between anatomy, chemistry, physiology and botany, on the one hand, and surgery and medicine on the other. They stand side by side with bacteriology and pathology, the stepping-stones from the scientific to the practical parts of professional education.

The fifth important, and truly scientific branch of medicine, is bacteriology, which is the study of all micro-organisms, or germs that causes most of the diseases that organized beings, vegetable and animal, are heirs to, which has given rise to the established truth of the germ theory of disease, and its application to the healing art, by showing the relation of specific and particular germs of diseases of specific and infectious natures. It has also shown to us that the particular germs of particular diseases are the exciting causes of those diseases. Therefore, the changes in the conception of disease has brought about a rational change in our modes and plans of treatment, from an empiric to a specific line of treatment, such as antiseptics or germ destroyers applied to the germs or their morbid agents, that causes infectious and suppurative processes in surgical injuries and other pathological conditions; also the use and application of antitoxins in infectious diseases, such as diphtheria, tuberculosis, anthrax, tetanus, pyæmia, etc.

Having given a brief outline of the principal scientific branches, we will now consider the two principal, practical branches, viz: *Surgery and medicine.*

I do not consider it necessary to discuss their respective subdivisions, into which they have been divided by specialists, as the elaboration of each would consume too much of your valuable time, since the ideas that I wish to convey to you can be brought out in discussing the two principal divisions.

The practice of surgery, prior to the days of anæsthesia, the artificial abolition of pain, and antiseptic, the prevention of wound infection, was an art looked up to with horror by the people, and with dread and fear by the surgeon. In those days the suffering caused by operations was so terrible that many preferred death to the surgeon's aid, and with others of more determination and will, operations were

only resorted to as a last resort, to stay the hand of death. Not only was surgery terrible and horrible to contemplate on the part of patients, but it was trying to the surgeons to witness the horrible sufferings of their patients, and caused them to have so much dislike to operating that they were prevented from undertaking it, owing to their inability to effect or witness it. Many surgeons, who were well fitted to operate and advance surgery, were so overcome and distressed during operations that they changed their life work and sought employment in other fields that were less disagreeable to their sensitive and sympathetic natures. Such a state of affairs existing, thinking men began to experiment on the lower animals with different chemical agents, with the philanthropic object in view to discover some agent that would render operation painless, and rob surgery of its terrible punishment to suffering humanity, and make its usefulness feasible, and of a wider ranger for the operator. "A tender surgeon makes a foul wound." It requires courage as well as sympathy to succeed in this branch of our art. And in those days men often stopped short of what they wanted to do, as the shock and agony of the scene was more than they could bear.

It was not until 1846 and 1847 that it was discovered, by Dr. Morten, a dentist, and Dr. Simpson, of Edinburgh, and Dr. Crawford Long, of Athens, Georgia, that ether and chloroform possessed the physiological properties of putting sufferers into a sweet sleep in which the knife is not felt, and in which it is robbed of its dread and terror. What humanity owes to these three men language cannot express. But, next to the All-Wise Being, they should be remembered, who was the first anæsthetizer, who cast Adam into a deep sleep before removing the rib out of which he was to evolve our better half—*Woman*. They ought to be remembered with a profound reverence and idealization, second to none that we possess for any of our silent and illustrious dead. Monuments should be erected over their sacred graves that would overshadow and eclipse the noted monument to the "Father of our Country." For the great benefit of their respective discoveries is not confined to any one land or nation, but extends over the entire civilized globe, and will continue to exist as long as this terrestrial sphere remains inhabited by the human race. "Life never dies, forms of life do." Just as life is handed down from one generation to each succeeding one, just so will the names and fame of these illustrious men, and their priceless discoveries, be handed down to

succeeding ones for all time to come." Anæsthesia has been the most powerful factor toward the rapid development of modern surgery; without it the wonderful achievements of the knife and rapid strides of the art would have been impossible. By its use we have been enabled to make all kinds of experiments on the lower animals, and thereby enable the profession to revolutionize physiology, pathology, therapeutics, and practical medicine, as the treatment of all diseased conditions rest upon these branches. As well as anæsthetics, the application of the germ theory to the treatment of wounds, and the practical application of cleanliness and antiseptics for the removal and destruction of bacteria-infecting wounds, and the fields of operations, in the last twenty or thirty years, have developed and advanced surgery with such a mad rush and momentum, as compared to all time back of this, that it is inconceivable and marvelous, not only to the lay mind, but to the professional.

These important discoveries were made by Joseph Lister, who, along with the discoverers of anæsthetics, is revered and venerated justly by the world, and his name and fame and important discovery will be rocked on the billows of time, and handed down to posterity, as long as the life of our *art* and humanity exist.

Before the days of anæsthetics, and antiseptics, and surgical cleanliness, the death rate in major surgery, even in selected and favorable cases, was between 35 per cent. and 45 per cent., and many surgical procedures of to-day, such as abdominal and brain surgery, were not undertaken at all, on account of the high mortality. Since the discovery and application of those agents to surgical art, the mortality has been reduced almost to nil, in selected and favorable cases; therefore, all of the organs of body have received the surgeon's care and skill—the organs of the abdomen and chest, the brain, spinal cord, and osseous system. Surgical intervention is now feasible under certain conditions on any organ of the body, and it is now possible to deal with injuries that were once believed to be beyond the aid of resources of surgical art. At the present time there is no organ of the body sacred from the surgeon's knife, and whatever injury or diseased conditions that is possible for them to have that is not amenable to medicinal treatment receives the care and efficient skill of the surgeon, to the great advantage of the patient, the surgeon, and to humanity. When we contemplate the countless number of subjects that are operated upon daily in the whole civilized

world, for every conceivable injury and abnormal condition that humanity is heir to, with the mortality reduced in operations, from 40 per cent. to 4 or 5 per cent., we cannot conceive of the countless number of lives that are daily, weekly, monthly and annually saved by the art of surgery; hence the State, the Nation, in fact, the whole civilized world, for humanity's sake, and the approval of the All-Wise Being, ought to lend a helping hand and encouragement to its advancement in every particular.

Another writer says: "Americans have always had, especially in surgery, a very practical turn in the application of new ideas. In laboratory work, the Germans are, perhaps, in advance of us. This is due to the Government's support which their investigators get. In America, we are dependent—entirely too dependent—on private laboratories. Our investigators have to hustle for bread and butter, while making their researches. In Germany they are provided with incomes by Government grants, so that they may devote the whole of their time, free from the harassing necessity of looking out from day to day for the support of their family and themselves."

If this Government, and all other civilized nations of the world, were to adopt Germany's plan of giving support to investigation and furnishing equipment and means for investigation, millions of lives would be annually saved that are not saved, and the already rapid strides of this important art would be increased tenfold, and to that extent man would be additionally benefited and the value to the world would be incalculable.

Medicine, which has traversed through many centuries of speculation, has in the last half century gotten on the right track, and is now able to discover the cause of disease, and, in many instances, by the scientific application of recent knowledge, is capable of removing the cause and preventing its destructive effects. When we remember that it was once the general belief, by both the professional and lay classes, that doctoring was nothing more than administering drugs, we can at least feebly appreciate its rapid advancement along with the other division of the art, and the advancement of all other scientific branches known to civilized man.

It is through and by the knowledge of the sciences that we have been enabled to advance this important division of the healing art. Through the knowledge of science, medical men have found the means by which they could invent and make suitable instruments,

appliances, and remedies, by which the cause of disease could be ascertained and its effects prevented, and, when not prevented, often successfully cured. But for the microscope, bacteriology would have been an unknown art; diseased germs, the recognized and known causes of all infectious and contagious diseases, would have remained undiscovered enemies of the human race. Diseases, such as smallpox, anthrax, relapsing fever, leprosy, cholera, tetanus, bubonic plague, glanders, yellow fever, etc., would be annually causing the death of countless numbers as of old. But, since we have discovered their causes by the means of the microscope, the mortality or death rate has been reduced almost to *nil*, thereby saving incalculable numbers of precious lives annually that would be swept away from their loved ones. Diagnosis in both medicine and surgery, long an uncertain science, has received wonderful assistance by means of numerous instruments. Not only this, but the invention of numerous instruments has also enabled us to be precise and certain of diagnosis and of rendering accurate, scientific, and effective treatment. How greatly humanity will be benefited thereby; how much pain will be relieved, the number of lives saved, the future can only tell.

In science, new doors have been opened where none were known to exist, and a knowledge of phenomena has loomed up for the present and the future that cannot be estimated.

The clinical thermometer is a reliable danger signal in fevers, obstetrics, surgery, and inflammatory diseases, and by the observation of the temperature chart as registered by this instrument, differential diagnosis between the different febrile diseases is in most cases ascertained. The ophthalmoscope has revolutionized the knowledge of the diseases of the eye, and, through that organ, is a valuable means of diagnosing obscure affections of the brain and kidney. The laryngoscope has enabled the professional eye to explore the larynx and windpipe, and to detect the beginning of serious diseases of those parts, and effective treatment made possible. The Roentgen or X-rays is one of the latest and most useful inventions; it is of value in both medicine and surgery for the diagnosis of obscure affections in the internal organs. Its value as an aid for diagnostic purposes is not eclipsed by any one instrument; its various uses I will not state, as more than likely you have been informed of them by the papers and leading journals of the country. For the same purpose as the stethoscope, the

phonendoscope is used in the diagnosis of disease of the lungs, heart, and some of the internal organs; by it, diagnosis has reached a precision that is far beyond the expectation of the inventor.

It is not necessary for me to mention all the up-to-date instruments and appliances that are used by the medical world for the effective diagnosis and treatment in both surgery and medicine, but, suffice it to say, that our armamentarium in that line is as near complete as can be made by scientific and mechanical skill, which gives us the means and power to accomplish for suffering humanity what our forefathers of two or three generations back would not have dreamed of nor conceived it possible for mortals to accomplish. Could they be with us to-day and make the comparison with their time and day, they could truly exclaim that, as the cherubim which with the ancients was represented by a composite figure composed of men, eagles, oxen, and lions, which represented the power of Christ in the spiritual world, so does medicine, with its modern attainment, strength, and power, represent the aid and protecting care over the physical. As Christ is the great fountain from whose source all spiritual life is obtained, so is medicine the inexhaustible fountain for the physical. As the one will continue to exist, so will the other, as long as there is need for their existence. Dynasties will flourish and fall as the rolling billows of the sea; inventions will revolutionize trade and modes of living; wars will disrupt nations; great lives will blaze upon the world and go out again as comets pass out of sight in the night. Like them, medicine will be subject to change and vicissitudes, but, unlike them, it will not pass away until the end of all things is reached. That, of course, will come in the distant future, for we are told that nothing is steady save unsteadiness, which applies to the earth and all things earthly. New discoveries of instruments, appliances, new remedies, and apparatus are constantly being made, perfected, and utilized for the upbuilding of our science, to surround those in health with a protecting arm against all disease, to perfect quarantine, hygienic, and sanitary regulations, so that the human race may be made healthier and stronger for the struggle for existence.

A writer has eloquently said: "Should dread disease in any form make a successful attack upon our walls and storm our citadel, our duty is to fly to their relief and take up any weapon that will successfully combat the enemy, and cause that much dreaded grim monster death to plume his mighty sombre wings and take

his limitless flight back to the realms of endless night, unencumbered by the weight of another untimely victim."

Our hopes and aspirations, our dreams and visions, are too often never realized, and our greatest undertakings will have to be perfected through the efforts of others. Though we may never reach the goal of our desires, I have faith enough in the genius of the medical world to believe that they will continue to break new grounds in the great territory of the unknown, as well as perfect and complete the unfinished undertakings of the nineteenth and twentieth centuries.

Unlike Napoleon, whose ambition led him too far, they will not venture too far in the great war against disease and the myriads of living germs (the cause of nearly all diseases) that are probably as numerous as the countless number of finely divided particles of dust of the heavens, to be beaten, defeated, deserted and cast an exile upon the rock of St. Helena, and there, upon that lonely spot, listen to the ever, surging billows chanting the dirge, "Vanity, all is vanity."

Instead of such a fate, theirs will be success instead of defeat; recruiting stations, with a constant stream of newly enlisted soldiers, instead of desertion, and the mighty army will continue the fight for the benefit of humanity, with the grit, skill and determination of purpose, as did Dewey and his men at Manila; with the bravery, sacrifice, and fortitude of a Hobson and his little band in the sinking of the Merrimac.

As to the latter part of this discourse, I will not detain you long.

One of the most common questions asked by the layman and professional classes concerning this so grand a science, and upon which the medical fraternity is severely criticized, is, why is it that there is so much discord, difference of opinion, envy and jealousy within its folds? In part, I will answer by counter questioning. If you will tell me why it is that all men do not possess the same opinions; why it is that the commercial world do not agree; why it is that different denominations of the Christian religion do not agree; why it is that philosophers, scientists, lawyers, ministers, judges and juries, all of whom, possessed of profound depths of learning, men of different religions and sects, politicians of the same and different political organizations, do not agree? why is it that musicians, both in vocal and instrumental, from the lowest to the highest, do not agree? why is it that men of every age, class and kind, in all walks of life, do not agree?

why is it that individuals, companies, corporations, trusts, newspapers, from the rural to the metropolitan centre, townships, counties, states, unions, principalities, republics and kingdoms do not agree? I will try and tell you why it is that the medical fraternity do not agree. It is well that it is true. I believe that it was intended by our Maker for a good purpose. It is the difference of opinion that makes the world progress and advance in every way that is necessary and best for humanity. It is the instigator of progress in science, art, philosophy, state and international diplomacy, peace, war, revolution, civilization and religion. If all were possessed of the same opinions, and were satisfied with what is known to man, and no opposition to the ideas, thoughts, theories, and speculations of the brain of men, the world would probably come to a standstill. There would be no object or incentive to dive deep into the depths of knowledge, and all would get into a common rut and believe the opinions they held were right and correct. They would make no effort to change them by investigation, invention, or mental activity in any direction.

Every step of advancement the world has ever made has been through difference of opinion and discord. Sir Isaac Newton, by his discoveries, confirmed the idea of the rotation of the planets. It is needless to say anything of the wonderful benefits derived from these discoveries, and yet he was scoffed, scorned, and ridiculed when he was bold enough to advance these thoughts.

If Columbus had not differed in his opinions, and persisted in his belief, and in carrying out his ideas, the new world, America, that is now considered one among the greatest powers on earth, would still be hidden by the veil of ignorance. Its wide and fertile area would still be roamed by the wild beast, and trodden and governed by the savage. The boasted nineteenth century civilization would be an unknown quantity in this, the land of the free and brave. A country that is now considered an instrument of providence, that will not tolerate unjust and brutal iniquity by the strong over the weak; a country whose mighty arm is feared by all of the continental powers—in fact, the World; the only country where man has absolute freedom and the blessed privilege of reaching the starry-decked vault of fame, through perseverance, industry, integrity and bravery. Though his origin may be so low; from the log hut on the mountain side, the farm, the shop, and from the midst of uncultured surroundings of the slums of the

small and great cities of the country, as well as from the higher walks of life, if he has brains, integrity, grit and industry, he has the great privilege to ascend from the lowliest walks of life to all the highest; as that of great inventors, discoverers, physicians and surgeons, lawyers, ministers, representatives, senators, governors, and *President of the United States*. *Mark you! All of this has been accomplished through American antagonism of opinion and apparent discord.*

I admit that in all the important departments of civilized life, there are fundamental principles, upon which a great majority agree in part, but, still there are diversified opinions among them in the various divisions or departments of any fundamental principle. I claim that the medical world has received unjust criticism at the hands of the public in general. Many of the critics seem to lose sight of the fact, that other classes of men, in every walk of life, possess the same faults that they accuse us of, and that we are human beings, with all of the instincts and faculties of other people. Upon one occasion, I was asked by a lawyer the question referred to at the beginning of this division of this address, and he incidentally remarked that it was not the case with lawyers. I differed with him, and mentioned several cases that I knew of in his profession, where there existed between them the bitterest animosity and most violent jealousy and envy that I ever knew of. By further questioning him, I ascertained the fact that he himself was not on good terms with the Commonwealth's Attorney of the city in which he practiced. Upon one occasion, had it not been for the interference of personal friends, they would have come to blows. I moreover ascertained the fact that there were quite a number of his professional brethren not on good terms with one another, and the spirit of jealousy and envy was in the atmosphere of their various relationships in the battle for supremacy.

It is not necessary for me to debate upon each class that I have mentioned heretofore, as it would be superfluous and useless, as any student of human nature in the affairs of men knows full well that all classes are alike in their nature, and what can be said of one class, can be said of all others.

I believe it is right, proper, and best, for men to possess different opinions, and also to possess, I might say, a righteous sense of envy and jealousy, and by their possession, they will put forth every legitimate effort to out-class and rise superior to their opponents or rivals in their particular walks of life. Such as will

induce the physician to better qualify and equip himself for superior attainments, both in scientific investigation and the practical application of his knowledge; such as will make the lawyer a profound student in the pursuit of a superior knowledge of law; such as will cause the minister to thoroughly post himself in the knowledge of holy writ and general literature, that he may rise superior to his fellows, and more successfully present the cause of Christ; such as will stimulate every one, in his particular sphere, to put forth an honorable and legitimate effort to outclass his superiors; such as will stimulate one nation to rise superior to others in all of its various departments—commercial, army, navy, and all proper national characteristics, those of a higher order of manhood, of justice and magnanimity towards its enemy.

By so doing, they accomplish greater things toward the advancement of civilization and the upbuilding of mankind.

However, let me place myself on record as unalterably opposed to that form of rivalry and jealousy which rises over the prostrate form, and outclasses its opponent through vile slander and uncalled for insinuations. I can best express this by the following illustration: A sculptor who, through trials and many tribulations, had completed the ideal accomplishment of his life, that would bring him fortune and fame, was lost by one thoughtless act of a little child who, with one slight blow with an instrument in its hand, irreparably effaced the figure. Even so, a slanderous tongue and envious rival can ruin both success and character that required years of self-sacrifice and untold labor to accomplish.

As Shakespeare says, in his immortal words:

"Who steals my purse, steals trash;
But he who filches from me my good name,
Robs me of that which not enriches him,
And makes me poor indeed."

No, my friends; we are not more jealous and envious and given to more discord than our fellowmen in other walks of life.

Our exalted position, both in literature and science, and the peculiar position and relationship that exists between the physician and patient, and the great number of people that he daily, weekly, and monthly comes in contact with, makes his virtues and his faults more noticeable.

Members of the medical profession are bound together more closely than members of ordinary avocations, and the profession as a whole enjoys an esteem and honorable standing not surpassed by any other class of men.

A CASE OF OPIUM POISONING—TRACHEOTOMY AND FORCED INSPIRATION—RECOVERY.*

By WM. P. CARR, M. D., Washington, D. C.

On April 26th, 1898, I was called by Dr. Wade Atkinson to see a case of poisoning by morphine and laudanum in which, we believe, we saved the patient's life by tracheotomy and forced inspiration, as recommended by Fell, and as it is, I think, the first case so treated in this city, I am sure it will be of interest to this Society.

My attention was first called to this subject when Dr. Fell read a paper here before the Congress of American Physicians and Surgeons several years ago. He described the method and reported two cases saved by it, that were little less than marvelous. Since then, I have been anxious to try the method.

In 1895, there were several fatal cases of opium poisoning treated at the Emergency Hospital, and I obtained permission to try Dr. Fell's method on the first suitable case.

I prepared myself with a bellows and tube, but, strange to say, there have been no suitable cases since. They have either been dead or have recovered without making a resort to the bellows necessary.

I have several times expressed the opinion before this Society that nearly all opium cases could be saved by forced inspiration.

A. B., white, male, 21 years old, took half an ounce of laudanum and twelve quarter-grain morphia tablets with suicidal intent. Dr. Atkinson saw the patient about half an hour after the dose was taken. Dr. Heinecke was called in to assist. Despite the fact that the patient's stomach was washed out with permanganate of potash solution, and atropia and strychnia freely used by hypodermic injection, he rapidly sunk into profound coma, and, in another half hour, had quit breathing entirely and was evidently dying.

The remarkable rapidity with which the poison acted was probably due to the fact that he had eaten absolutely nothing for nearly twenty-four hours. I saw the patient first about an hour and a quarter after the ingestion of the poison, and found him badly cyanosed, with widely dilated pupils, making no attempt to breathe, and being kept alive by artificial respiration. It was apparent, after a few minutes, that he was losing ground, and could not

be kept alive much longer by ordinary artificial respiration.

In fifteen minutes, I began the tracheotomy and found it a matter of some difficulty under the circumstances. The patient was in an inconvenient position on a low bed, and it was necessary to keep up the artificial respiration during the operation. The thyroid gland was large, and reached up to and overlapped the cricoid cartilage, and in drawing it down to expose the trachea it was slightly torn and bled freely, requiring the placing of a ligature. I did the operation with Dr. Heinecke's assistance between the intervals of artificial respiration, which was kept up by Dr. Atkinson, and after fifteen or twenty minutes had a rubber tube inserted into the trachea with an ordinary bellows attached.

In five minutes after the bellows was at work, the patient's face, which had been slate color, became pink, and his heart began to beat rather violently. It was soon found that the heart was pretty well under control. It beat rapidly when the bellows was worked rapidly, and more slowly when the bellows movement was slowed. This phenomenon has often been noticed in animal experimentation where, under similar conditions, the heart may be made to beat violently or stopped completely, and then made to resume, simply by varying the rate of the bellows movement or stopping it. This is due, according to Flint, to the difficulty with which blood charged with CO₂ circulates through the capillaries, and the consequent high arterial tension.

In the present case, in our anxiety to furnish plenty of air, I think we overworked the patient's heart at first, and as a result it became very weak after a time.

Some time after recognizing this mistake, and after half an hour of regular and careful bellows' work, the pulse became strong and regular. The bellows was stopped occasionally for forty or fifty seconds to see if the patient would make any respiratory movements, and for the same purpose was occasionally worked so slowly that cyanosis would appear. It was not, however, until six hours after the tracheotomy and six and three-quarters hours after the last voluntary respiration that he made even the slightest effort to breathe. During this time, no change was noted except the remarkably quick disappearance of the cyanosis, a marked increase in body heat, and the gradual return of the widely dilated pupils to the normal size. The pupils were contracted at first, I am informed, but were in the state of dilatation which occurs just before death when

*Read at a meeting of the Medical and Surgical Society of the District of Columbia, May 5, 1898.

I first saw him, and did not again become contracted.

At 7 o'clock P. M., seven hours after taking the poison, he made a gasp, and soon began to breathe regularly six times a minute. At 8 o'clock he was breathing regularly eight times a minute, and the respirations were full and deep. The tube was removed at 8:15 P. M., and the wound closed around a small piece of gauze drainage, by tying sutures that had been inserted at the time of the operation. The patient made an uneventful recovery. The wound is nicely healed, and with the exception of a little pus around some of the stitches there was no suppuration or inflammation. I was surprised at the sudden way in which respiration was re-established. In an hour and a half after the first respiratory effort the patient was breathing well, and seemed to be partly conscious. The coma and failure to breathe also came on very quickly after the ingestion of the poison—due no doubt to the empty condition of the stomach.

The tube used in the trachea was a piece of ordinary No. 12 catheter, attached to a stiff rubber tube, three or four feet long. It was not tied into the tracheal wound, as it was found to fit in and stay in without any difficulty. When the bellows was compressed the air was found to enter and distend the lungs—expanding the chest about as much as an ordinary inspiration. It would then pass out by the side of the catheter in the trachea—not through the tracheal wound into which the catheter fitted pretty closely, but through the larynx and open mouth.

Dr. Fell has improved his original apparatus by providing stops or valves to prevent the same air entering the lungs a second time, and by providing an arrangement for warming the air, and by adding a face mask of rubber to the end of the tube, which may be placed over the nose and mouth and will allow the air to be forced into the lungs, in many cases without the necessity of a tracheotomy. He has reported seventy or more cases, many of which are of the greatest interest.

Dr. John S. McLain, of this city, informs me that he has several times used Fell's apparatus, with the face mask, with complete and gratifying success.

When the tongue falls back in such a manner as to obstruct the ingress of air, as is very likely to occur in desperate cases, a tracheotomy has usually been done, and respiration kept up by means of a tube in the trachea. I see no reason, however, why a catheter could not be passed down into the trachea through

the larynx, and as good results obtained as by means of an artificial opening. I shall certainly try this method at the first opportunity.

I believe the most convenient and effective apparatus will be found to consist simply of a large ordinary bellows, with three or four feet of stiff rubber tubing attached to the nozzle, and fitted with a large clean catheter at the other end. A mouth gag or large cork between the teeth will keep the mouth open while the catheter is being passed into the trachea, and prevents its being pinched and bitten afterward.

There is no real necessity, as I have abundantly demonstrated in animal experiments, for stops or valves to prevent the entrance of the same air into the lungs a second time. Where an ordinary bellows is used the return air will of course flow back from the lungs into the bellows, but so rapid is the process of the interchange of gases that the small portion of this air forced a second time into the lungs will be sufficiently pure. Most of it will escape from the bellows by leakage, and the remainder purified by the interchange of gases. Neither is there any necessity for warming the air. The warming apparatus was intended by Dr. Fell for drowning cases; but if it is desired to have the air warmed, it can be done by putting the patient in a warm room.

In conclusion, I would say that I am more firmly convinced than ever that nearly every opium case may be saved by forced inspiration, and that while all credit is due to Dr. Fell for originating the method, I believe a simple bellows and tube is as effective and more convenient than his more elaborate apparatus.

1418 L Street, N. W.

SUPRA-PUBIC CYSTOTOMY FOR HEMORRHAGE INTO THE BLADDER.

By LLEWELLYN ELIOT, M. D., Washington, D. C.

When Pierre Franco, in 1560, devised the operation of supra-pubic cystotomy for the removal of a vesical calculus too large to be extracted by the ordinary perineal operation, he established the easiest and safest route to the bladder, and, for stone and some other operations, it is the best. From his time, until it was revived in 1719 by Douglas and adopted in 1723 by Cheselden, it was seldom performed.

While this operation has been employed for the relief of enlarged prostate, stricture of the urethra, vesical calculus, and the removal of tumors, few cases are recorded of its perform-

ance for hemorrhage into the bladder. As the posterior portion of the urethra is constructed, it appears to me a matter of surprise that so few cases of hemorrhage into the bladder occur, for in operations for stricture, there is always more or less bleeding, and in false passages, made either by the physician or the patient, the same thing occurs.

It is my desire to place upon record the history of a case where the amount of blood and urine accumulated in the bladder was almost sufficient to rupture the organ. This hemorrhage followed internal urethrotomy for stricture.

Joseph H., white, aged 45 years, of good physical development, some years ago contracted gonorrhœa, of which he was cured by injections.

In April, 1891, after an attack of influenza, he experienced difficulty in urinating, necessitating the use of the catheter. Was well for a short time, when he contracted rheumatism; the catheter was again required. In July, 1891, he suffered with hemorrhoids; this resulted in fistula in ano. In August, 1891, the fistula was divided, allowed to heal from the bottom, and complete incontinence of feces resulted. Lost strength and flesh, and experienced much pain in the right iliac region. The catheter again became necessary, the urine being at times bloody.

On the night of December 8, 1891, Dr. J. V. Carrara was called on account of inability to pass urine. After much difficulty in passing two obstructions, he succeeded in drawing a small quantity of bloody urine. Later in the night, with assistance, chloroform was administered and the urine was again drawn; it was still bloody.

On December 9, chloroform was again administered, bloody urine drawn, and internal urethrotomy performed with the Otis knife.

On December 10, urine passed without assistance; still bloody.

December 11, unable to pass urine; chloroform again administered and the deeper stricture divided.

December 12, unable to pass catheter; bloody urine drips from the penis at times; great distention of bladder and much pain—the bladder reaching nearly to the umbilicus. At 2 o'clock in the afternoon, I was called in consultation; found the patient suffering intensely; impossible to pass a catheter; decided to perform the supra-pubic operation, and made immediate preparations. Other counsel added and coincided in the necessity for the operation. Chloroform was administered, the rectal bag

introduced and distended with water; catheter passed. After cleaning the field of operation, an incision three inches long, extending upward from just above the symphysis, was made; the fat and other tissues separated. Reaching the bladder, an opening one inch long was made and a large quantity of black fluid escaped; the bladder wall was caught with catgut and held to the external wound; the finger, introduced, detected quite a large quantity of clots and the point of the catheter; the finger and also the dull curette were used to extract the clots; the bladder thoroughly washed with a saturated solution of boracic acid, and sutured to the abdominal wound with catgut; a drainage tube inserted, and the abdominal wound partly closed with silk sutures. The walls of the bladder were much congested, thickened and rugose to the touch. The greater portion of the clots was about the opening of the urethra, which had what appeared to be a flap hanging over it. He rallied slowly from the chloroform; was given gr. 1-8 morphia sulphate; absorbent dressing applied; at 9 o'clock temperature 98 4 5°; pulse 98; condition good.

December 13, temperature 98 4-5°; pulse 100. Had a comfortable night; bowels moved from citrate of magnesia; no pain; no bleeding from penis; drainage from abdominal wound free.

December 14, temperature 98 4-5°; pulse 96. Passed a good night; drew urine from bladder through abdominal wound with a long nozzle syringe; drainage tube changed, as the one in use appeared to be useless, urine welling out of wound; penis weeps at times.

December 15, temperature 98 3-5°; pulse 96. Slept well last night, but was awakened twice with a desire to urinate; very slight tenderness over lower portion of abdomen (not peritonitic), which he had before the operation. Washed bladder through abdominal wound with a saturated solution of boracic acid. Could not pass catheter through urethra. Searched bladder for clots; none found. Wall adhering to abdominal wall. Inserted larger tube.

December 16, temperature 98 4-5°; pulse 96. Had a good night; no pain; no soreness over abdomen; urine flows freely through drainage tube.

December 17, temperature 99 3-5°; pulse 98. Bladder washed.

December 18, temperature 98 3-5°; pulse 100. Catheter passed into bladder and allowed to remain.

December 19, temperature 98 3-5°; pulse 96. Bladder washed with carbolic solution.

December 24, has left orchitis; catheter removed.

December 26, has urethritis.

December 30, out of bed.

January 1, 1892, urine passes from penis.

January 8, urine passes from penis and from abdominal wound; opening size of a lead pencil.

From this time the wound gradually closed, and he has had no return of his urethral trouble.

1106 P Street, N. W.

CELLULAR THERAPY.*

By MARK W. PEYSER, M. D., Richmond, Va.

Lecturer on Physiology, University College of Medicine; Secretary Richmond Academy of Medicine and Surgery, etc.

The definition given by Aulde to the subject selected for your consideration is "the method in therapeutics of exhibiting properly selected medicaments with a view to restoration of cell-function. It aims to supply scientifically those remedies that experience has shown to possess special curative properties in the restoration of disordered functions."

The prototype of the animal is the cell, and physiologists, in explaining or attempting to explain life, select the amoeba as an example. It is born, it develops, it moves, it has a circulation and a respiration; it digests, absorbs and excretes; and it reproduces and dies. Stimulation, whether mechanic, electric, or thermic, causes it to manifest its peculiarities. Irritation, if prolonged, causes its death. Thus, we ought to perceive how far in the application of remedies we shall go. The fact is, however, we do not know or perceive when we leave the safe ground of stimulation and encroach upon that of irritation, which is bound, in the nature of things, to result in death.

We often wonder why the administration of astringents, for instance, does not check diarrhoea. Kunkler⁽¹⁾ observes that "if a solution of tannic acid is injected into the circulation, the first effect observed is always a narrowing of the lumen of the vessels. This contraction has escaped the observation of several of the more recent authors, because they selected solutions which were not sufficiently weak. Permanent contraction of the vessels can be produced only by solutions of the strength of 1.20 to $\frac{1}{2}$ per cent.; stronger ones produce a transient, momentary contraction, followed by

the opposite condition; that is, vascular dilatation. This cannot be ascribed to paralysis, because tannic acid does not act as a nerve irritant. In the stage of contraction, diapedesis of white blood corpuscles and, consequently, inflammation and suppuration cannot occur."

The fault then lies in the administration of the remedy in such a dose as to produce irritation, instead of stimulation.

A cell throughout its life is constantly evolving heat, normal during health, but increased when acted upon by certain adventitious circumstances, and this is fever. Children develop fever far more rapidly than do adults, because of the activity of their cells; their tissues are constantly undergoing development, and almost any irritation will develop increased metabolism. In the case of the infectious fevers, various toxins are the irritating substances, and as the cells of the child are not so stable, resistance is lessened. This explains the predisposition of children to certain fevers.

"As long as the activity of the cell is maintained, the cell will respond; but when it has been over-stimulated, it no longer can react; it is, as it were, paralyzed. Exhausted, its energy is gone, its motility leaves it, and heat being less generated, we get what is called a subnormal temperature. This is illustrated in the exhaustive stages of various diseases." (2).

Rational treatment would point, not to the use of febrifuges, for the mere reduction of fever, but to the removal of the cause. Facts will bear me out when I state that in all local infections there is an increase of leucocytes which Metschnikoff has shown to possess phagocytic action. The indication, then, is to strengthen this by stimulating the white blood cells, and it may be done by the administration of either nuclein, the product of the nuclei of the cells, or by the various antitoxins. Buckner has demonstrated that action of the latter is not upon the bacteria or their toxins, but upon the cells themselves.

"We find in the ultimate analysis of the organic structures of our bodies, from the units of the most highly specialized tissues to the units of simple undifferentiated protoplasm, that the most important organic elements of the organism are the unmodified protoplasmic white blood cells. They are the seat of its physiological powers and the most powerful antagonizers of its pathological conditions; the source of all its nutrition and of all its repair; its agents of supply in times of peace and its brave warriors of defense in times of battle." (3).

The direct bearing of cellular therapy is shown in its application to nervous affections.

* Read during the second day of the Medical Society of Virginia, in session at Virginia Beach, Va., August 30-September 1, 1898.

C. F. Hodge, in a number of beautiful experiments, has demonstrated that electrical stimulation of nerve cells resulted in a decrease of the size of the nuclei and of the cells owing to loss of protoplasm, and that five hours' stimulation required about twenty-four hours' rest in order that the process of recovery might be completed. Dr. Preston, of Baltimore (*), in discussing tetany, said the causes are just the ones that *a priori* we would expect to affect the nerve cells, perhaps using up their protoplasm. A pertinent question is, in this disease, and in most nervous affections, are the bromides truly indicated? Would not their administration mask the condition rather than cure it? Is not strychnine the more rational agent?

Dr. McAllen Starr, (*) in a paper on the Causation of Nervous Diseases, gives experiments on a dog from which pieces of brain had been removed at various times during starving and feeding, until it had returned to the normal condition. At the end of ten days' starvation, there was disappearance of part of the cell protoplasm, the nuclei were changed, and the cells were, in some instances, surrounded by leucocytes, some of which had penetrated. After re-feeding for four weeks, some cells had disappeared; of others, only the nuclei remained; in some, there was but a narrow border of protoplasm around the leucocytes which had increased and were entering the cells. After six weeks, regeneration was found to have begun around the nucleus, and protoplasm had begun to accumulate, in some instances, bulging out of the wall as though for new process. After eight weeks of feeding, regeneration, with the exception of the protoplasmic process, was complete.

The condition of impaired nutrition produced experimentally by starvation, is quite comparable to the impaired nutrition that must follow the arrest in the blood supply. Hemiplegia, aphasia, hemianopsia, hemianesthesia, chronic nephritis, syphilitic affections, diseases of old age, etc., are all due to defective nutrition from imperfect blood supply. Knowing the action of the bromides in producing anæmia of the brain and depression of all vital functions, I ask the gentlemen, are they indicated?

Dr. Edward Cowles (*), in a paper on the *Relation of Mental Diseases to General Medicines*, says it is a safe rule that mental symptoms always mean weakness; excitement is an extreme degree of irritable weakness in which there is great exhaustion in the mechanism of mental control.

This thought should beget care in the use of

sedatives and hypnotics. Beware of the coal-tar compounds and the like; they are good and sometimes necessary for proper use, but not for many days in succession. Change them and omit for a while; they go against nutrition, and drug intoxication often aggravates the disease and is mistaken for it.

Rummo has demonstrated that guinea-pigs, in which a tolerance to strychnine had been established, were immune to injections of tetanus culture.

Professor Liebreich, of Berlin, ascribed his success in the treatment of lupus to the use of cantharidate of sodium. His theory was that the small amount absorbed was just enough to stimulate the cells of the organism to increased activity, thus enabling them to throw off any morbid substance, if it were not too overwhelmingly great.

I have been twitted often for advocating the use of arsenite of copper in diarrhœa and dysentery, not because of the agent itself, but on account of the infinitesimal dose. My principle is based on physiological action, and I have gone on with it, achieving cures more often than failures. Dr. Aulde's explanation is that it acts as an intestinal antiseptic through its influence upon the nervous system and through its influence upon the protoplasm at the points of elimination—namely, the epithelial cells of the intestinal mucous membrane. Through its irritant effect upon protoplasmic cells throughout the body, being administered in extremely small doses, it acts continuously as a stimulant, augmenting cellular activity in every part. (7).

It must be confessed that the action of those alteratives used in practice is not well understood. We administer them, have good results, and that is the end of it. Possibly cellular therapy will give us the best explanation. Arsenic is used in fatty degenerations, not because when given continuously it will produce them, not, therefore, because of the homœopathic fallacy *similia similibus*, but because (in being eliminated, chiefly through the liver) as Dr. Aulde says (*), of its stimulating effect around and within the diseased area; because, carried to these points in which cellular activity is suspended or arrested, the irritation produced by its presence is, in truth, the stimulant which promotes cure. In other words, it restores function, rehabilitates cellular activity, and incidentally, illustrates cellular therapeutics.

In line with this, is the explanation of Bruce in his work on *Materia Medica: Alteratives* act by *exercising* the tissues in two ways: taking

mercury and iodine, they increase metabolic change in order to remove excessive growth. They hasten the life processes of the young cells so much that the cells disappear in the form of products, or, as is commonly expressed, are absorbed. It is essential to the success of this plan of treatment that the alterative substance should be thoroughly under control, and that abundant food be ingested to prevent failure of nutrition.

Secondly, there is an effect of exercise beyond an increase of work accomplished—work that is increased in *amount* can be changed in *kind*; exercise is beneficial, not only to the indolent individual, but to the vicious. So with these tissues. Exercise may bring them into a new, a normal state of function, when they have been deranged or even diseased. In order to get the tissues to work normally, we must get them to work somehow, knowing that such work means chemical change, or even active nutritive renovation of the elements. The natural disposition which all tissues inherently possess to return to the normal is thus afforded an opportunity for coming into play, and the result is not a mere increase of activity, but also an *alteration in kind* of the activity. Henceforth, the protoplasm, if supplied with an abundance of food and oxygen, returns to the normal state.

I wish I could go further into the elaboration of the vast domain governed by the subject I have chosen, but the time is limited, and I shall conclude with a summation of the whole question by Dr. Knapp, a worker in the field (*).

The cell is the seat of all the functions of the human body—nutritive, secretory, excretory and correlative; and in health and disease, we are concerned with the cell and not with the organization as a whole; the vital processes take place in the cell, and equilibrium between anabolism and katabolism, repair and waste, may be taken as a definition of health; and certain physiological functions of the cells—chemotaxis, phagocytosis; cell proliferation, and defensive proteids—are the functions concerned with immunity, vital resistance, and the arrest and cure of disease. It is already a known fact that certain cells or certain groups of cells have certain powers of reaction and irritability, and it is reasonable to suppose this power belongs to all cells. Stimulus and changes in the vicinity and environment of the cells produce changes and alterations in the cell; therefore, it is concluded that the cell may be modified by medicaments. Assume this to be the basis of the physiological action of drugs, seeking not their mechanical effects,

nor effects upon the pulse, respiration, and temperature alone, but their action upon the cell, whether the action is demonstrable in the laboratory or inferred from the clinical result. (10).

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TWO CASES OF HYSTERECTOMY FOR CARCINOMA CERVIX UTERI AND ONE CASE OF ECTOPIC GESTATION—OPERATION AND RECOVERY.*

By SAMUEL G. GAY, M. D., Selma, Ala.,

Senior Vice-President and Senior Counsellor of Medical Association of State of Alabama: Ex-President Dallas County (Ala.) Medical Society, etc.

HYSTERECTOMIES FOR CARCINOMA OF CERVIX.

CASE I.—Sallie P., colored, age 34, married, mother of two children at term; her last labor was at term in 1886. Family history, so far as could be learned, was negative. Consulted me at my office, June 2, 1896, for slight pains, heavy and uneasy feeling in her pelvis, and troublesome leucorrhœa. On digital examination, I found the cervix large and somewhat indurated on the left side. On ocular examination, I saw an open, ulcerated surface, bleeding from touch.

I made a diagnosis of carcinoma of cervix, developing in an old laceration. She being an unusually intelligent colored woman, I immediately informed her of her condition, and advised operation at once. She promised to return on the next day and let me know her decision, which she did, and at which time Dr. J. P. Furniss saw her with me, and confirmed my diagnosis. She accepted operation, preparatory to which I prescribed strychnine sulphate, with regulation of diet, and clearing out of bowels.

At her residence, on June 7, 1896, after the usual aseptic preparations, and scrubbing and douching the vagina thoroughly, I cauterized

* Read before Medical Association State of Alabama, April 20, 1898.

with a Paquelin cautery the ulcerated surface and closed the cervix with three or four interrupted sutures. I then proceeded to do an abdominal hysterectomy.

Ligating the ovarian arteries on either side, as far distant from the uterus as possible, the left uterine artery was ligated in a like manner, taking care to avoid the ureter. I then divided the broad ligament down to my last ligature. The operation was prolonged and rendered more difficult by old firm adhesions, between the uterus and bony pelvis on the right side, due to an old pelvic inflammation. The right ureter and uterine artery passed through this mass of adhesions. With much difficulty, I succeeded in dissecting them free, and, as I thought at the time, without injury to the ureter.

After ligating the right uterine artery, and making anterior and posterior flaps of peritoneum, I dissected down on the vagina and divided it well below the cervix, removing the uterus with its appendages. I took much care in dividing the tissues, to keep as far away from the affected area as possible, hoping by doing so to avoid a recurrence of the disease. After flushing the abdominal cavity with normal salt solution, I introduced gauze drainage through the vagina, and placed the peritoneal flaps over the gauze without suturing. I then closed the abdominal cavity by through and through sutures of silk-worm gut. After applying the usual abdominal and peritoneal dressings, I put my patient to bed very much shocked. After applying external heat and giving a few hypodermics of strychnine, she soon rallied. Her temperature reached its highest point, which was $101\frac{1}{4}^{\circ}$ F., on the evening of the second day, after which it declined, and my patient made a slow but steady recovery.

Her bladder was relieved with catheter for three or four days. Bowels moved well on fourth day, after the administration of Epsom salts. On the second day I discovered a urinary vaginal fistula, which I attributed to some injury to the right ureter, while dissecting it from the mass of adhesions. This caused no serious trouble, and healed without treatment in six or eight weeks. Since the operation she has been in perfect health, except some slight nervous disturbances, due to early change of life. There has, as yet, been no return of the disease.

CASE II.—Harriet P., colored, age 54, married, mother of twelve children, born at term, and one abortion. Family history unknown. She gives a history of uterine trouble since the birth of her last child twelve years ago.

Had menopause ten years ago. Was first seen by me on March 2, 1897, at the request of Dr. J. P. Furniss, at his office. Our diagnosis was carcinoma of the cervix, affecting the entire cervix. The uterus being movable, macroscopically unable to detect any extension of the disease to the vagina, although her general health was becoming impaired, we advised immediate operation, which was accepted. Her home being in the country, she was carried to the house of a friend in this city, where, after due preparations on March 10th, we did a combined abdominal and vaginal hysterectomy. Our object in doing this combined operation was to ligate and divide all tissues as far distant from the uterus as possible under our sight. After ligating the ovarian and uterine arteries, and making anterior and posterior flaps, and dissecting well down on the vagina, I packed iodoform gauze anteriorly and posteriorly to the uterus, in order to protect the bladder and rectum from possible injury. After closing and dressing the abdominal incision, I then, by the vagina, completed the operation, taking due precaution in making my incision, to remain a safe distance from recognized diseased tissue. Right here I wish to warn my hearers who may undertake this operation, of an accident that occurred to me. After opening up the anterior and posterior cul de sacs, I was unable to find but one strip of the gauze which was used in the packing. After completing the removal of the uterus and its appendages, I again attempted to recover my lost strip of gauze, but found that it had been carried back into the abdominal cavity by the intestines, which necessitated my reopening the abdomen and removing it by that way.

After placing gauze drainage in the vagina, and applying the usual external dressings, I put my patient to bed severely shocked. I applied external heat, and gave hypodermics of stimulants as often as was safe, together with rectal saline enemata with brandy.

Her pulse remained about 140, temperature 102° F., face drawn, eyes staring, nausea and vomiting with rapid respiration. Every symptom indicating approaching death. This condition continuing five days, but with most careful attention and the constant administration of stimulants hypodermically, and nutritive rectal enemata, she began slowly to improve. After a stormy convalescence, she was able to return to her home in the country, at the end of the fifth week, and rapidly regained her health and strength.

On August 30, 1897, I discovered that the

disease was returning in the vaginal stump. The patient refusing any other treatment, died on January 27, 1898.

I report these cases because they clearly demonstrate the necessity of early diagnosis and operation in this disease.

ECTOPIC GESTATION—OPERATION—RECOVERY.

CASE III.—The third case I report is one of *ectopic gestation*.

Carrie H., colored, married, age 22, residence in the country. She reports having had one pregnancy, five years before this, terminating in an abortion at the sixth month. This case was first seen by me at the request of Dr. J. P. Furniss, at his office, in the latter part of April, 1897. From the very unintelligible history secured at this time, and the firmness with which the tumor was attached to the uterus and other pelvic organs, knowing the frequency with which fibromata develop in this race, we concluded that we had a fibroma in this case, and advised its removal, which was refused at this time.

Patient returned on June 1st, and accepted operation, which was done at the colored hospital in this city on June 8th, 1897. The true condition of the case was not discovered until the abdomen was opened, when we found a baby instead of a tumor.

The fœtus was contained in a sac, which was firmly adhered to the uterus, small intestines, omentum, and descending colon. These adhesions were dissected away with considerable hemorrhage, the omentum was ligated in sections, and divided, all bleeding vessels were ligated. The sac was peeled out of the folds of the left broad ligament, the pregnancy having taken place in the corresponding Fallopian tube. The removal of the sac necessarily denuded the posterior surface of the uterus of its peritoneum, and left a large raw surface, which was covered as nearly as possible by carrying a portion of the left broad ligament around the posterior portion of the uterus, and suturing it to that organ. I then brought the other folds of peritoneum together, thereby effectually shutting off all raw surface from peritoneal cavity. The peritoneal cavity was then sponged clean from blood clots, then flushed with hot normal salt solution, a portion of which was left in the abdominal cavity, the abdomen was then closed by through and through sutures without drainage. The usual abdominal dressings were applied, and patient put to bed. After the administration of a few hypodermics of strychnine and normal salt enemata, she soon rallied from chloroform and shock.

My patient had a slow and uneventful recovery, with the exception of a thrombus forming in the left femoral vein, lasting about two weeks. Her stomach remained in a good condition, bowels and kidneys acted normally throughout her convalescence. She returned to her home at the end of the fifth week, after making a good recovery.

After the operation, with much difficulty, I secured from the patient and her family the following history:

That her last regular monthly period occurred in January, 1896, after which she remained perfectly well, until the latter part of March. Then, while walking over the farm, she experienced sudden, severe pelvic pains, which necessitated her being assisted to the house. There was no uterine hemorrhage, and she was only confined to her bed three or four days. This was no doubt occasioned by the rupture of the Fallopian tube. In May following, she had a second attack of a like nature, confining her to her bed about the same number of days. This attack could possibly be attributed to rupture of the broad ligament, from increased development of the fœtus. First abdominal enlargement was noticed in the latter part of May, fœtal movement first noticed in June, which movement continued until the first week in December—at which time she had severe abdominal and pelvic pains lasting all of one day and part of the night, complicated by five convulsions.

A physician was called, and gave medicine that relieved convulsions, and stated to the family that she would probably be delivered during the night, asked to be called if there was further trouble; there was none, pains and convulsions having stopped during the night. He of course did not recognize her true condition. It is supposed that the death of the fœtus took place at this time, as there were no more fœtal movements noticed, and they had been vigorous up to this time. She soon recovered again, and returned to her labors as house-wife and farm hand. In August, 1896, her menstrual flow returned, and has continued regularly with normal amount of flow, without pain.

You can see, from the specimen presented, that it is a small, but well developed female fœtus, in a good state of preservation.

Correspondence.

The Antitoxin Patent—Why Refused Five Times, Yet Finally Allowed.

PHILADELPHIA, PA., Sept. 1, 1898.

Mr. Editor,—An examination of the official file wrapper and contents of the United States patent granted to Behring on diphtheria antitoxin, under date of June 21st, 1898, gives the clearest idea of the subject which is at present attracting world-wide attention. It appears that since January 11th, 1895, Behring filed five different applications, each being presented promptly after its predecessor was refused. The first lacked very materially in clearness, but, like the other four, claimed for the would-be patentee the discovery and perfecting of "a successful plan or process by which diphtheria antitoxin can be obtained upon a large commercial scale." This claim is specially stated in the second application as an elucidation of the intent and purpose of the first, and is defended by argument in the last three.

In the same application we find the clearest statement of what is not claimed in the following words: "This invention does not cover a method of medical treatment (which is not patentable). While inoculation to immunize is known, no one before the invention of this process has gone beyond establishing general scientific principles. I lay no claim to underlying scientific principles, as these were evolved by many."

The main argument advanced to sustain the claim is the fact that the applicant was awarded the "Alberto Levy prize" for the discovery of diphtheria antitoxin. This, it may be remarked, is offset by the fact that the French Academy of Science prize was awarded conjointly to Behring and Rouz.

The points in law scored against the applicant by the special examiner are, substantially, as follows:

1. The process for which patent is claimed consists of methods by which applicant is not the sole nor first inventor. It is an elaboration of basic principles which are the result of the labors and discoveries of many, and hence is not patentable.

2. The process for which patent is asked is simply a particular application of a general process which is part of the professional knowledge, and applies to the production of other antitoxins than that of diphtheria. The applicant is not the sole inventor, and the process is not patentable.

3. The elaboration of a process so as to make it operative for commercial purposes, when the principles underlying it are common knowledge, is not a patentable novelty.

4. The substance produced by the process for which patent is claimed cannot be described by its physical or chemical properties, but only in terms of results obtained when medicinally employed, and for this reason is not patentable.

5. A method of medical treatment is not patentable. Diphtheria antitoxin is produced by and for a method of medical treatment.

6. The Alberto Levy prize expressly states that Behring and Kitato published the results of their labors, hence either alone was not inventor.

7. It appears that a similar material was patented in England by Aronson, under date of February 1, 1894, hence the applicant is not the sole operator in this field.

The last application was finally rejected by the special examiner, March 19th, 1898, on the ground of the counter claims above stated. Four days later, the claim was taken before the Board of Appeals and allowed, because, forsooth, the process referred to has been instrumental in very much reducing the mortality from diphtheria. Now it remains for the Supreme Court to decide whether this is sufficient ground for a patent.

The matter is one in which every American citizen should be profoundly interested. The manner in which domestic medical journals have already taken up the subject editorially shows in what general esteem diphtheria antitoxin is held by the medical profession.

In his native country, Behring could not possibly receive a patent, and the fact that he was allowed such a grant in the United States is a lasting reproach upon our patent laws or their interpretation. Had the domestic product proven inferior in a single particular to the Behring product, there would seem to be a semblance of an excuse for the least encouragement of this inhumane monopoly. But such is not the case; indeed, in the reverse. American producers have taken the initiative in every improvement that has yet been made in antitoxic serum. Concentrated and standardized serums originated in Philadelphia, and are now known the world over. Only within the last twelve or fifteen months have they been on the list of Berlin antitoxins. Again, the foreign product has never yet compared favorably with the domestic in clinical results, doubtless because of the facts already stated.

Bearing these facts in mind, the gross injus-

tice of any act which closes American laboratories in order to give an inferior imported product an exclusive monopoly becomes strikingly apparent.

JACOB R. JOHNS, M. D.

Analyses, Selections, etc.

Case of Bromoform Poisoning.

Dr. Larkin W. Glazebrook, Washington, D. C., reports an interesting case (*Nat. Med. Rev.*, Sept., 1898). L. W., $4\frac{1}{2}$ years old, developed pertussis. She was given three drops, every three hours, of a fresh preparation of Merck's bromoform, which was continued for three weeks. Paroxysms, never severe, were improving, although three or four occurred during the twenty-four hours. The child got hold of the dropper, containing about 15 drops, and introduced the contents in her mouth. She had already taken the three-drop dose of the medicine. Ten or fifteen minutes later, the child was seen to lie down on the floor, as if asleep. At midday, she did not respond to the dinner bell; the attendant attempted, but failed to arouse her. The child was then limp and apparently unconscious, though breathing quietly. Involuntary evacuation of bowels and bladder had taken place. The matron administered the white of an egg, and at 12.15 P. M., the child vomited twice. Dr. McGee arrived five minutes later and found the child collapsed, cyanotic and apparently dead. After drawing the tongue forward and swabbing out a large quantity of mucus, he used artificial respiration. Dr. Glazebrook arrived at 12.30 and administered hypodermically nitroglycerin and $\frac{1}{2}$ th grain of atropia sulphate. Anesthesia was complete; conjunctival and other reflexes obliterated; pulse from 160 to 200; respirations regular, though occasionally needing some stimulation to remove the large amount of mucus. Stomach carefully emptied with stomach tube, and then strong coffee was introduced. At 1.15, condition somewhat improved, but unconsciousness and anesthesia remained. Whiskey by enema, while hot bottles were placed around the child in bed. At 1.45, color much improved, apparent quiet sleeping. At 2.15, mucus apparently filled trachea, but was easily removed. Atropia repeated; by 2.46, pupils responded, respirations normal, and pulse 120. Rested quietly till 4 P. M., when child was awakened, apparently all right. At

7 o'clock she was crying and begging for food. During the toxic stage, the symptoms were most alarming—resembling the threatening narcosis occasionally seen in chloroform administration. Pupils only slightly dilated, conjunctival mucous membrane inflamed, blood pressure markedly diminished, cyanosis resembled very much that caused by administration of nitrous oxide gas.

It is interesting to note that the child has never manifested any symptom of pertussis since then.

Cases are recorded in which three drops in a child four years old, and two drops in one fifteen months old, have produced serious symptoms.

In bromoform poisoning the general reflexes are entirely lost. There is general pallor, dilated pupils, collapse and heart failure. In several cases, when used as a general anæsthetic, Von Horock has noted general cyanosis, especially of the face. Urine at times contained bromine. Benome and Mazza noted that the narcosis is slowly developed and passes off slowly. They refer to it as a possible valuable anæsthetic, and have noted irritation of conjunctive and nasal mucous membranes.

Several writers speak of bromoform in the highest terms in pertussis, claiming that after it has been taken for two or three days, a reduction in the number and severity of paroxysms takes place; that the disease is cut short—running only two or three weeks; and that complications are not likely to take place. The beginning dose is three drops for a child three to six years old, although larger doses are occasionally used. Newman, of Berlin, thinks it may lessen the attacks, but does not lessen duration of the disease. Ulman, of Berlin, is, however, positive in his opposition to its use.

Dr. Glazebrook placed ten whooping cough children upon it, while other groups were being treated by other methods. Those under bromoform, although carefully used for three weeks, did not appear to do as well as those under other plans of treatment. The paroxysms were not apparently lessened in number or severity, and the disease appeared to run its usual course.

[In connection with this subject, the experience of Dr. M. D. Hoge, Jr., of Richmond, Va., in the Foundling Hospital, is valuable. See *Va. Med. Semi-Monthly*, May 28, 1897, page 103.—*Note by Editor.*]

P. rtussin in Whooping Cough.

Pertussin is made by mixing fluid extract of thyme (German variety) with syrup, so that

it represents an infusion in the strength of 1 to 7. Professor Ernst Fischer, of Strassburg (*Deutsche Med. Wochensh.*, Nov. 28, 1898), after failing with tussol in several cases of pertussis without complications, resorted to pertussin, which is pleasant to take. The result was astonishing. In a few days, the disease was changed into almost a simple bronchitis. The attacks became milder, the phlegm looser, and the cyanosis and choking wholly disappeared. The children were given a change of air, and in a few months the disease ceased. In acute and chronic bronchitis, it is also of great service in loosening the mucus. In all cases of emphysema, it is of great value in aiding expectoration. It is heartily recommended to surgeons for the bronchitis which follows anaesthesia, in old subjects with chronic bronchitis and emphysema.

Book Notices.

Twentieth Century Practice. *An International Encyclopedia of Modern Medical Science.* By Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M. D., New York City. In Twenty Volumes. Volume XIV., "*Infectious Diseases.*" New York: William Wood & Company. 1898. Cloth. 8vo. Pp. 602.

This volume continues with the study of infectious diseases, which was begun in the preceding volume. The diseases herein described are: Scarlet fever and German measles, by Dr. Frederick Forchimer, of Cincinnati; Measles and glandular fever, by Dr. Dawson Williams, of London; Chickenpox, by Dr. Dillon Brown, of New York; Whooping cough, by Drs. Joseph O'Dwyer and Nathaniel Read Norton, of New York; Cholera infantum, by Dr. A. Jacobi, of New York; Cholera nostras and Asiatic cholera, by Dr. Theodor Rumpf, of Hamburg; Dengue, by Dr. Joseph Fayrer, of London; Beriberi, by Dr. A. A. de Azevedo Sodre, of Rio Janeiro; Miliary fever, by Dr. A. Netter, of Paris; and Malta fever, by Surgeon Major, British Army, David Bruce, of Pietermaritzburg, S. Africa. It thus appears that of the eleven contributors to this volume, five are American authors. All the chapters are first-rate—especially those on scarlet fever, cholera infantum, and Asiatic cholera—and yet such specialization is scarcely just to the book, for all the contributions are well written and thoroughly standard. While each chapter or sec-

tion forms a most excellent monograph, to which is appended a full bibliography, we are impressed with the value of each contribution to the practitioner. Each article is well up to the times as it goes to press; so that no one who has the preceding volumes has lost anything by his subscription to the entire twenty volumes—six more of which are to appear at intervals of about three months, thus bringing the issue of the last (or twentieth) volume to about January, 1900. This *Twentieth Century Practice of Medicine* will form an exhaustive library on the subject of medicine which will be authoritative for many years after its completion. Dr. Stedman is to be congratulated on his apt selection of authors.

Manual of the Diseases of Children. By JOHN MADISON TAYLOR, A. M., M. D., Professor of Diseases of Children, Philadelphia Polyclinic, etc., and WILLIAM H. WELLS, Adjunct Professor of Obstetrics and Diseases of Infancy, Philadelphia Polyclinic, etc. *Illustrated.* Philadelphia: P. Blakiston's Son & Co. 1898. Small 8vo. Pp. 743. Cloth. \$4, Net.

This is a good book, dealing concisely with nearly every condition of infancy and childhood that receives attention in the larger works. In fact, many practical things are gathered from numerous books and much experience and observation by the authors, and are classified and well stated by them. It is a good class-room book, as well as a first rate work for the busy practitioner. For the young physician, we may especially commend to his earnest study that part which treats of the physiology, the general hygiene, the feeding and foods of infants and children—including artificial foods, recipes, etc., the breeds of cows best adapted for infant feeding, the diseases occurring at or near birth. It is not because these are the best chapters, but because what is herein said is not to be found generally so well said, and because they relate to matters not enough considered by the young doctor, who is anxious to get prescriptions rather than general directions. The chapter on the antitoxin treatment of diphtheria—both as to the theory and detail—is one which should be mastered by one who does not feel that he understands the subject as he should. But to individualize the striking chapters would be to mention nearly all of them. So that we leave the book to the consideration of our readers—having, as it does, our most cordial recommendation. The illustrations are also good. The print and the index and the style of publication are all good.

Editorial.

Medical Society of Virginia.

The Twenty-ninth Annual Session of this State Society was held at Virginia Beach, Va., August 30, 31 and September 1, 1898. The attendance was unusually large—nearly 200 Fellows, besides some twenty or more visitors from other States. About seventy new members were admitted to Fellowship. Dr. Lewis E. Harvie, the retiring President, was the only honorary fellow elected. Never in the history of the Society was the Committee of Arrangements (of which Dr. Wm. L. Harris, the efficient Resident Physician at the Beach, was chairman, aided especially by Drs. Southgate Leigh and Harry L. Myers, of Norfolk,) more untiring in their efforts to do all things well. At the banquet table, over 200 were seated—a number of the guests on this occasion being the ladies who accompanied the doctors.

The Judicial Committee, of which Dr. E. T. Brady, of Abingdon, Va., was chairman, had a hard time of it—being practically in session during the entire second day of the Society, which debarred them from the enjoyment of the scientific proceedings of that day. They had a knotty case to unravel, and were compelled to return an unsatisfactory report, which led them to resign in a body and to request the appointment of others in their stead. The new Committee, of which Dr. Wm. P. McGuire, of Winchester, Va., is chairman, have the same case to deal with, and will have sessions during the vacation until the next session of the Society—about the middle of October, 1899, in Richmond, Va.

We cannot help specially commending to the careful reading of the younger members of the profession the Address of the President, Dr. Lewis E. Harvie, of Danville, Va. It has the greater force when one knows the firm, spotless professional character of the author, who yet, like all great men, has a forgiving disposition for offenders of the law who show true repentance. We publish this address in full in this issue, as also the Address to the Public and Profession, by Dr. H. E. Jones, of Roanoke, Va. In his allusions to anæsthesia, it would have been well to have dated Dr. Crawford Long's discovery and use of ether as a surgical anæsthetic back to 1842 and 1843, as Dr. J. Marion Sims so conclusively proved that it was to him that modern science is indebted for the great discovery.

As we shall present most of the valuable

papers and discussions held during this session, we will not stop now to refer to them. But we may remark that the papers contributed by some of the visiting doctors were of exceptionally high character. Notable among such were the papers by Dr. Henry H. Holton, of Brattleboro, Vermont, on "The Bacteria of Typhoid Fever"; Dr. A. M. Phelps, of New York, on the "Diagnosis and Treatment of Hip-Joint Disease"; Dr. Wm. R. Pryor, of New York, on the "Vaginal Method of Treating Pelvic Inflammatory Lesions"; Dr. J. Wesley Bovée, of Washington, D. C., on "Long-Standing Full Term Extra-Uterine Pregnancy"; Dr. Swithin Chandler, of Wilmington, Del., on "Acute Miliary Tuberculosis"; Dr. V. P. Gibney, of New York, on "Clinical Experience in the Management of Tuberculous Sinuses"; Dr. T. D. Crothers, of Hartford, Conn., on "The Treatment of Inebriety"; Dr. R. Tunstall Taylor, of Baltimore, Md., on "The Prognosis of Deformity."

It was a special pleasure to his many friends to have in attendance Dr. Hunter McGuire, whose protracted sickness has kept him for some months away from professional work. In response to calls, he entered into the discussion of several papers read. His health has sufficiently recovered to let him return home and resume his professional duties about September 20th, both in St. Luke's Home and in office and consultation work.

Dr. Jacob Michaux, of Richmond, Va., was unanimously elected President of the Society for the current year. His popularity with the profession will undoubtedly prove the means of greatly adding to the membership of the Society during the year.

We scarcely know what comment to make upon the new order of things as announced in the circular program of this session, issued in August. The twenty-minutes rule for papers was all right, but a great number of the forty-odd papers intended for this session were not read except by title. Allotting a definite hour for papers after Wednesday did not work well, for papers not reached in the morning session had to go over till the afternoon; those intended for the afternoon had to go over till the night session, and those announced for the night had to go over till the next day—thus giving disappointments and dissatisfaction all around. We are inclined to the belief that the old way is better—not to appoint a definite morning, afternoon or night session for any paper, but to take up each successive paper announced in the program in its regular order—without saving at what hour it will be reached. Certainly

we never heard so many complaints of one kind or another growing out of disappointments as to when a definite paper would be called. Let each paper take its turn as announced in the program, without stating whether it will come during a definite part of the day.

It is evident that the session of this Society must hereafter extend over into Friday, and this becomes the more important when the Society is to meet in such a city as Richmond, where receptions and other attractions will take the members away from the night meetings. Else, less than a corporal's guard will be the only auditors during the night's sessions—if such are held. It is easy enough for those who have preferred positions on the program—especially on Wednesday—to say that the Thursday afternoon and night's sessions *should* be excellent opportunities when they have read their papers, secured good discussions, etc., on the previous day, and have bundled up and gone on home. If those near the end of the list on the program have shown the parties who had earlier positions the courtesy of coming early and listening to the papers of that day, it is likewise an expected courtesy that those who read their papers early should remain over to compliment the later readers in a similar manner.

Among the list of visitors from other States, there were a dozen or more from the North Carolina State Medical Society; there were also some from Maryland and other States.

The Committee on Publications will at once decide on the plan of publication of the *Transactions*. If papers are not in hand promptly, they cannot be considered by the Committee. It is, therefore, important that all authors who failed to hand their MSS. to the Recording Secretary—Dr. Landon B. Edwards, Richmond, Va.—should at once forward them to him.

As it is likewise important to get the Biographical Register correct, each Fellow should immediately send to the Secretary a statement of any changes he may wish made as to his name.

The Virginia State Board of Medical Examiners

Held its second session for the year 1898 at Virginia Beach, Va., August 29, 30, 31 and September 1. The meeting on August 29 was for executive purposes. The examinations began promptly at 9 A. M. August 30th and continued—three examinations a day—through September 1. Only twenty-two applicants for examination for license to practice medicine, etc., in Virginia presented themselves. The

report of the results of examination will be published in this journal as soon as the papers can be examined and the report made up. All the members of the Board were present except Drs. R. W. Martin and Sam'l Lile, of Lynchburg, and Wm. L. Robinson, of Danville. The Secretary, Dr. R. S. Martin, of Stuart, Va., received a slight injury in getting off the train, but we are glad to know he is getting over it. He was confined to his room a part of the day because of it.

It is important for all interested parties to note that the time for the next meeting of the Board for examination of applicants has been changed to the *first Tuesday in June, 1899, in Richmond, Va.* The executive session of the Board will be held the night before—Monday, June 5th, 1899, at 8:30 P. M.

Statements were made to the Board that some doctors are undertaking to practice medicine in Virginia without first having been examined by the Board as to their qualifications to do so. These reports likewise unofficially reached the members of the Medical Society of Virginia while in session. The penalty for the violation of the law is severe, and it is therefore to be hoped that offenders will at once discontinue their unlawful conduct before they are arrested and exposed. There is no doctor in Virginia, we dare say, that does not know of the medical examiner's law, and that does not know that a *temporary permit* to practice does not extend beyond the time of the next regular meeting of the Board. This note is to caution all who are presuming to practice in Virginia on *temporary licenses* that the names of all such will be compiled from the official records of the Board, and if any are found who are persisting in violation of the law, they will be arrested and the penalty of the law exacted. Let this word of caution be heeded immediately by any offenders. It is not the purpose of either the Board of Examiners or the Medical Society of Virginia to act hastily in this matter—they prefer that there shall be no arrests or exposures. But prosecutions will follow in the cases of those who, after this warning, will persist in evading the operations of the law. It is not just to those who have been required to pass the Board of Examiners that any further persistent offenders should be allowed to practice without submitting themselves to the test of their fitness to do so.

The Mississippi Valley Medical Association

Will hold its annual meeting October 11-14, 1898, at Nashville, Tenn.. The following is a partial list of the papers promised for the

meeting: Dr. B. Sherwood-Dunn, Boston, Mass., *Why I have Abandoned the General Practice of Vaginal Hysterectomy*; Dr. J. A. Stucky, Lexington, Ky., *Tonsillitis or Quinsy—Causes and Treatment*; Dr. H. W. Whitaker, Columbus, O., *Pichi*; Dr. A. Ravogli, Cincinnati, O., *A Few Practical Points in the Treatment of Posterior Urethritis*; Dr. Frank Parsons, Norbury, Jacksonville, Ill., *The Neuro-Hypothesis of Rheumatoid Arthritis*; Dr. A. M. Osness, Dayton, O., *Diphtheria and Its Logical Treatment*; Dr. F. E. Kelly, La Moille, Ill., *Varicocele*; Dr. F. F. Bryan, Georgetown, Ky., *A Plea for Pelvic Peritonitis and Cellulitis*; Dr. John M. Batten, Pittsburg, Pa., *Syphilis*; Dr. Geo. W. Johnson, Dunning, Ill., *Gonangiectomy and Orchidectomy for Hypertrophied Prostate in Old Men*; Dr. Geo. F. Keifer, Lafayette, Ind., *Wounds of the Lachrymal Apparatus—Report of Operation for Restoration of Canaliculi Obliterated by Traumatism*; Dr. Shelby C. Carson, Greensboro, Ala., *A Consideration of the Limit to Operative Gynecology*; Dr. W. H. Humiston, Cleveland, O., *The Relations of the Gynecologist and the Neurologist*; Dr. W. Gaston McFadden, Shelbyville, Ind., *Intermingling and Changing of Type in Diseases*; Dr. Wm. F. Barclay, Pittsburg, Pa., *Mercury and Its Action*; Dr. J. Rilus Eastman, Indianapolis, Ind., *Diagnosis of Gonorrhœa in Women*; Dr. S. E. Milliken, Dallas, Texas, *Sub-Periosteal Removal of Caries from the Pelvic Basin, with the Report of Cases*; Dr. Thomas Charles Martin, Cleveland, O., *Complete Inspection of the Rectum by Means of Newer Mechanical Appliances*; Dr. Geo. D. Kahlo, Indianapolis, Ind., *Hydrotherapy in Stomach Diseases*; Dr. Alex. C. Wiener, Chicago, Ill., *Surgical Treatment of Infantile Paralysis*; Dr. James M. M. Parrot, Kingston, N. C., *Supra-Pubic Cystotomy vs. Perineal Section*; Dr. R. C. Pratt, McKenzie, Tenn., *Cases in Obstetrics with Complications*; Dr. John L. Jelks, Memphis, Tenn., *Relationship Between the Genito-Urinary Tract and Rectum, with Special Reference to the Female*; Dr. T. Virgil Hubbard, Atlanta, Ga., *How Should We Treat Typhoid Fever?* Dr. W. W. Taylor, Memphis, Tenn., *Clinical Contribution to Ectopic Gestation*; Dr. M. Goltman, Memphis, Tenn., *Interesting Surgical Cases*; Dr. I. N. Love, St. Louis, Mo., *The Bicycle from the Medical Standpoint*; Dr. Joseph Price, Philadelphia, Pa., *Surgical Treatment of Pus in the Pelvis*; Dr. Andrew Timberman, Columbus, O., *Operations on the Mastoid—When and How Performed*; Dr. R. A. Bates, Louisville, Ky., *Arthritic Diathesis*; Dr. Chas. W. Aitken, Flemmingsburg, Ky., *Diagnostic and Therapeutic Uses of Tuberculin*; Dr. G. W. Halley, Kansas City, Mo., *Some Pathological Conditions of the*

Ovaries and Adnexa Causing Pain. Dr. Henry E. Tuley, of Louisville, Ky., is Secretary.

An Army Medical Board

Will be in session at Washington City, D. C., during October for the examination of candidates for appointment to the Medical Corps of the United States Army, to fill existing vacancies. Persons desiring to present themselves for examination by the Board will make application to the Secretary of War, before October 1, 1898, for the necessary invitation, giving the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from which they were graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates based on personal acquaintance, from at least two reputable persons, as to his citizenship, character, and habits. The candidate must be between 22 and 29 years of age, and a graduate from a regular medical college, as evidence of which, his diploma must be submitted to the Board. Successful candidates at the coming examination will be given a course of instruction at the next session of the Army Medical School. Further information regarding the examinations may be obtained by addressing the Surgeon-General, U. S. Army, Washington, D. C., Dr. George M. Sternberg.

Conference of State and Provincial Boards of Health of North America.

In conjunction with the sessions of this Conference in Detroit, Mich., held August 9-11, 1898, was the Quarter Centennial Celebration of the Establishment of the Michigan State Board of Health. These meetings constituted one of the most successful and important sanitary sessions ever held in this country. In his welcoming address, Dr. Henoage Gibbes, health officer of Detroit, claimed that in his city of 200,000 inhabitants there was not a case of diphtheria, and only five or six cases of scarlet fever. Many excellent papers, judging from the titles and list of authors, were presented.

The Medical College of Virginia

Has purchased property running from their lot on Marshall street to a frontage on Broad street, now occupied by a double tenement dwelling house. This building the authorities propose to convert into an obstetric hospital, as an annex to the Old Dominion Hospital.

Maltreatment of Soldiers.

From an earnest study of the facts as developed, we are the more satisfied that Surgeon-General Sternberg is being more blamed for the maltreatment of the U. S. soldiers in Cuba, in Porto Rico, and in this country than he should be. The evidence shows that he has used every effort in his power to provide the army with all the medical stores and equipments and medical men and nurses; but his power has not been sufficient. His recommendations to the Secretary of War were either ignored or declined in a great number of instances; nor does it seem that all of the provisions he had planned were carried out by the Quartermaster-General. In addition to this, it does not appear that all the Surgeons and Assistant-Surgeons in the field were well selected by the various volunteer regimental officers. While some of them were men of ability and character, others were without professional reputation even among the doctors of their own communities. For their selection, the Surgeon General could scarcely be held responsible in the haste of organization and mobilization of an army of 300,000 soldiers. He denied himself honors and pleasures in order that he might remain at his post to provide the commands with the material at his disposal to take care of their health, and to take care of them when wounded or sick.

Some important lessons ought to be learned from the upturn of events. Volunteer regiments and companies in the various States should be kept equipped for war. It was like mobilizing a mob when the regiments all over the country were ordered out. Very few of them had even the arms or accoutrements with which to go to battle. The best disciplined companies had to learn a new manual of arms, because of the issue of rifles they had not seen before. Certainly a thoughtful government could have anticipated the sudden necessity for field service. Antiquated guns and cannons even yet remain in the possession of commands that were not called out. In time of peace, prepare for war, as the Navy seems to have been prepared.

And as to the medical staffs of volunteer regiments or commands in times of peace they are but figure heads, so that if on dress parade or street parade, any of the soldiers sicken or are hurt, no adequate provision is made to take care of them. The Surgeons and Assistant-Surgeons are selected too often simply because they are popular young men in their respective communities, rather than because of profes-

sional attainment and practical experience with sickness or wounds. Many of such volunteer regiments are without even a filled medical chest or surgical appliances. It is to be presumed that those regiments about to be mustered out of the government service are now well equipped with medical stores, etc. These stores can be of no service to the War Department shelved away in some of the buildings. Let them be issued to the volunteer commands in the various States, and require systematic reports regarding them, as is the case regarding guns issued to the soldier.

The history of all wars shows that more is to be apprehended from the loss of men by disease than from the enemy's bullets. It was so in the Spanish-American War, and it will continue to be so until more authority and better equipments are given out. Regimental surgeons and their assistants should be made to pass suitable examinations before medical examining boards to test their professional qualification. A competent surgeon and his assistants are as essential as a competent colonel. Let the medical officers have more authority and better provisions, then disease can be kept out of camps, and many lives of healthy people now uselessly sacrificed could be saved in health to return to their homes instead of being half-starved and fit subjects for typhoid or other infectious disease.

Behring's Patent on Diphtheria Antitoxin.

The American profession is unquestionably of one opinion with reference to the patent claims of Behring regarding diphtheria antitoxin. Scarcely less than disgust is the feeling of the profession toward him. The fact that he was interested, with others, in the discovery of the antitoxin of diphtheria had given him a fame which promised to be imperishable. But when the great fall into a vice along the line of their expected virtues, eminent reputation sinks into degradation. It turns out, however, that the evidence does not justify the pretensions of Behring—that he was the sole discoverer of the diphtheria antitoxin process. We invite the attention of our readers to the letter of Dr. Jacob R. Johns, in this issue, on the subject. We welcome to our country scientists from any part of the globe, and are willing to accord to them that position to which their ability entitles them. But in the world of medicine we cannot show honor to a man who leaves his own country, where the opportunities for securing witness of an invention over these could be easily provided, to come over to this country to prove himself a quack,

charlatan, an impostor, or what not. Beside the Philadelphia firm alluded to by Dr. Johns, the whole American profession is aware that Messrs. Parke, Davis & Co., of Detroit, have gone to great expense in equipping laboratories, etc., for the production of specially perfect and potent antitoxin, which exceeds in results the manufacture of German or other foreign houses. Is it possible that the U. S. patent laws compel the profession to adopt a foreign process of producing antitoxin which is not the equal in results to those obtained by the use of American products? We cannot help believing that when the matter comes up before the Supreme Court of the United States—to which the questions involved have been taken—the fallacy of the claim of Behring will be proven, the injustice of the patent rights awarded him will be proven, and the decision of the lower court reversed.

It is unfortunate that the profession, though, disgusted with the penny wise and pound foolish efforts of Behring, do not seem to be aroused to the serious effect upon them and their diphtheritic patients if the patent is allowed to stand. We urge doctors to study the bearings of this unjust Behring patent, and to educate their patrons to the dangers of any law which shelters patents on the production of so valuable an agent as the anti-diphtheritic antitoxin.

The Virginia State Board of Health

Held its quarterly meeting at Virginia Beach, Va., September 1st. All the members were present except the President. The prevalence of typhoid fever throughout the State was the chief subject of consideration. It was thought that good might be done by educating the people, through the *Bulletin* and otherwise, as to the causes of this disease, and pointing out to them some of the means of its communication, and the means of prevention.

The Exhibitors During Session of Medical Society of Virginia

Made an attractive and profitable display. Messrs. Bartlett, Garvens & Co., and the Virginia Pharmacal Co., of Richmond, Messrs. Parke, Davis & Co., the Imperial Granum Co. (John Carle & Sons), were among the most attractive exhibitions. Of course, there were surgical operating chairs, publishers, mineral water representatives, etc.

Dr. Wm. Osler

Is the Dean-elect of Johns Hopkins Medical School in place of Dr. Wm. H. Welch.

Candidates for Grade of Assistant Surgeon United States Marine Hospital Service.

The Supervising Surgeon-General, Marine-Hospital Service, Washington, D. C., under date of August 25, 1898, has issued the following circular:

A board of officers will be convened at Washington, Wednesday, November 9, 1898, for the purpose of examining candidates for admission to the grade of Assistant Surgeon in the United States Marine Hospital Service. It is desired that applications for this examination be made before November 1st.

Candidates must be between twenty-one and thirty years of age, graduates of a respectable medical college, and must furnish testimonials from responsible persons as to their character.

The following is the usual order of the examination: 1, Physical. 2, Written. 3, Oral. 4, Clinical.

In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify for service in any climate.

The examinations are chiefly in writing, and begin with a short autobiography by the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery, and hygiene.

The oral examination includes subjects of preliminary education, history, literature, and natural sciences.

The clinical examination is conducted at a hospital, and when practicable, candidates are required to perform surgical operations on the cadaver.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur.

Upon appointment, the young officers are, as a rule, first assigned to duty at one of the large marine hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco.

After five years' service, Assistant Surgeons are entitled to examinations for promotions to the grade of Passed Assistant Surgeon.

Promotion to the grade of Surgeon is made according to seniority, and after due examination, as vacancies occur in that grade. Assistant Surgeons receive sixteen hundred dollars; Passed Assistant Surgeons, two thousand dollars; and Surgeons, twenty-five hundred dollars per year. When quarters are not provided, commutation at the rate of thirty, forty, or fifty dollars a month, according to grade, is allowed.

All grades above that of Assistant Surgeon receive longevity pay, ten per centum in addition to the regular salary for every five years service up to forty per centum after twenty years' service.

The tenure of office is permanent. Officers travelling under orders are allowed actual expenses. For further information or for invitation to appear before the Board of Examiners, address Supervising Surgeon-General, United States Marine Hospital Service, Washington, D. C.

Medical Practice Act for District of Columbia Enforced.

Health Officer Woodward (*Jour. Amer. Med. Assn.*, Sept. 3) is to be congratulated on the promptness with which he enforces the Medical Practice Act in force in the District of Columbia. He has recently notified Dr. A. M. Curtis that no death certificates bearing his signature will be accepted as valid by the Health Department. Dr. Curtis is a political appointee, under the Interior Department, which, strange to say, has control and directs the management of the Freedman's Hospital. While Dr. Curtis, it appears, was appointed after certification of the Civil Service Commission, he has not complied with the act of Congress, requiring registration in the health office upon receipt of license from the medical supervisors of the District Examining Board. The Interior Department claims that their appointee should not be amenable to the District law regulating medical practice, and has written to the commissioners, requesting that the health officer be directed to accept the death certificates, signed by Dr. Curtis. The health officer has been unable to find any clause in the act of Congress regulating the practice of medicine in the district, which exempts Dr. Curtis from complying with the requirements of the act. The health officer has also decided that Dr. Curtis is practising medicine in violation of the law, and has directed the coroner to review all cases of death reported on certificate of Dr. Curtis. The local profession cordially endorse the action of Dr. Woodward.

Our Cuban Exchanges

Are beginning again to appear on our table, where we welcome them. We trust they will unite their efforts with those of the American medical press in pointing the way, and insisting upon active measures being taken in removing yellow fever germs from its ports, as has been the case with the Atlantic ports of the United States.

The Medico-Chirurgical College of Philadelphia and the Association of American Medical Colleges.

It seems that the Medico-Chirurgical College of Philadelphia some weeks ago offered its resignation as a member of the Association of American Medical Colleges. The Judicial Council of Association—after speaking of this college as "an institution of high character"—most remarkably decides that "the resignation of the college *cannot* be accepted, practically because the college *has been* a good member. We do not know the articles of constitution which retains or expels members in a voluntary organization, or permits or do not permit them to resign; but on common judgment of right and wrong, if the Judicial Council is given the right to accept or reject an application, their ruling in this case appears ridiculous, if based on the facts quoted on pages 548-9 of *Journal of American Medical Association*, September 3d. Such a decision will not promote harmony, nor encourage additional fellowship—even on the part of those who favor the four-years' course. Our criticism of the action of the American Medical Association with reference to this question of membership, is given on page 293, August, 26, 1898, issue of this journal.

Dr. Anita Newcomb McGee,

Wife of Prof. W. J. McGee, of Washington, D. C., and daughter of Prof. Simon Newcomb, formerly of the Naval Observatory, was regularly sworn in, on August 29, 1898, as an Acting Assistant Surgeon, U. S. Army. This is said to be the first woman, in the history of the American Army, ever appointed a member of the army medical staff. Her commission entitles her to the uniform of a second lieutenant, without designation of rank. Throughout the Spanish-American war, Dr. McGee has been in charge of the selection of the women nurses, and of the 700 or more now in the field, most of them have passed muster at her hands. She has gone to New York to select thirty graduate nurses for service in Porto Rico.

Louisiana State Board of Health.

To conform with a recent enactment which provides that the State Board shall be composed of seven physicians, representing the different sections of the State of Louisiana, Governor Foster has appointed: Dr. Edmond Souchon, New Orleans, President; Drs. Hampden S. Lewis and Chas. A. Gaudet, of New Orleans; J. C. Egan, of Shreveport; T. T. Tartelet, of Grand Coteau; R. L. Randolph, of Alexandria, and W. G. Owen, of Whitecastle.

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Original Communications.

DIAGNOSIS AND TREATMENT OF DIPHTHERIA.*

By JAMES S. IRVIN, M. D., Danville, Va.

As so much has been said and written about diphtheria in the last few years, there are few points which are not thoroughly familiar to a majority of you. It is not my intention to advance any new theories, but to present, as concisely as possible, facts as I see them, gathered from accepted authorities, for your discussion. As the scope of this paper is *confined to diagnosis and treatment*, I will make only a few general remarks on the disease.

Diphtheria has been recognized since the commencement of the Christian era, and has always been more dreaded than any other disease, on account of its high mortality and the fact that all classes of mankind are liable to it—no age, race, condition or locality being exempt.

It is an acute infectious and contagious disease, characterized usually by a pseudo membrane, which occurs, as a rule, in the throat, but may appear on any mucous membrane of the body or any abraded cutaneous surface. The false membrane always contains the Klebs-Löffler bacillus of diphtheria. The bacillus does not always act with sufficient intensity to produce the pseudo membrane, but simply a catarrhal inflammation; however, these cases are true diphtheria just as positively as if the action had been severe enough to produce the false membrane. Constitutional symptoms vary according to the severity of the case—from almost nothing in the mildest cases to great prostration, anemia and cardiac depression in the severer cases. The disease is often followed by local or general paralysis, and is

usually complicated with albuminuria and frequently broncho-pneumonia.

The bacillus was first described by Klebs, and afterwards more thoroughly studied by Loeffler. It is found in pseudo-membranes, on mucous membranes, and in the saliva, but probably not in the breath, blood, or internal organs of the body of those suffering with the disease. The constitutional symptoms are produced by the poisons (tox-albumins) in the circulation, generated by the bacilli at the local seat of the disease and absorbed into the blood.

The diagnosis of diphtheria, made early, is of the utmost importance. Probably there is nothing more difficult in medicine than to diagnose positively the mildest cases at all clinically, or the severe cases in the early stages. To do our patients justice, a clinical diagnosis should always be confirmed by a bacteriological examination. From the fact that the clinical diagnosis is always made first, and any delay in treatment is so disastrous to the patient, more attention should be paid to clinical evidence, and we should not depend too much on the bacteriologist. This is applicable to physicians in cities who are convenient to laboratories, where the delay would be only fifteen to twenty-four hours; but much more important to general practitioners, who have not these conveniences.

A clinical diagnosis, in a large majority of cases, can be made fairly accurately after twelve to twenty-four hours. We have to take into consideration the presence of an epidemic, whether or not the patient has been exposed to the disease, and the fact that children between one and ten years of age are much more susceptible. It has been my observation and the experience of many that a second attack in the same person is comparatively rare.

The constitutional symptoms vary so much that they are generally very confusing, but are of some importance. As a rule, they come on insidiously; fever going up slowly, reaching the maximum 103° F., say, on the fourth or fifth day; though in some cases the onset may

* Being the "Subject for General Discussion" before the Twenty-ninth Annual Session of the Medical Society of Virginia, held at Virginia Beach, Va., August 30, 31 and September 1, 1898. Dr. Irvin was the "Leader of the Discussion."

be very sudden, coming on with chill, nausea and vomiting, fever high, 104° F. or more. The rule is, in other acute inflammations of the throat, symptoms come on rapidly, fever reaching the maximum on the first to third day, 103° to 105° F., say, and disappear more quickly. The disturbance of the nervous system is usually greater in diphtheria, and a little later there is often some local paralysis, especially of the soft palate, causing regurgitation of food, always more or less anæmia, much more marked later, and, in the severest cases, general toxæmia.

The local manifestation (the false membrane) is of most importance. It usually occurs first as a small gray patch on one or both tonsils, with irregular edges, dark congested base, very tough, firmly adherent and imbedded. Gradually it extends to the pillars of the fauces, uvula and pharynx, and becomes thicker later, greenish and darker in color, with edges everted. When this membrane is removed, there is left a more or less smooth, depressed and bleeding surface, and it rapidly reforms. The extension of this false membrane from the tonsil to the walls of the pharynx, or the occurrence of croup while there is only a patch on the pharynx or tonsil, is considered pathognomonic. There is always more or less adenitis, rarely suppuration. Even a slight œdema of the uvula or pillars of the fauces is not usual in diphtheria, while œdema and the intense inflammations are common in the diseases due to cocci infections. Membranous croup, in the majority of cases, is true diphtheria, and probably always is when it attacks the larynx primarily.

The most difficult differential diagnosis we have to make is from *pseudo-diphtheria*, which is an unfortunate term used to denote all pseudo-membranous inflammations in which are not found the Klebs-Löffler bacillus. The false membrane in this disease, as a rule, is thinner, more friable, yellower, often limited only to tonsils, less tendency to spread, general inflammation of throat much more severe. Membrane much easier to remove, and, when torn off, tendency to leave ulcerated surface and evidences of extensive suppuration. Membrane lasts shorter time, usually two to five days. Adenitis much less and frequently absent. The occurrence of pseudo-diphtheria a number of times in the same person is the cause of the old idea that one attack of diphtheria predisposed the patient to the disease. Constitutional symptoms come on much more rapidly, often ushered in by a chill; fever is higher and symptoms of septicæmia are more

marked. When complicating scarlet fever or measles, it usually occurs in the height of the primary disease, sometimes before the eruption. True diphtheria usually occurs after the acute symptoms of the primary disease have subsided.

From follicular tonsillitis a mistake is not often made; the same rule applies as to other acute inflammations of the throat—sudden onset, rapidity, swelling of tonsils greater, and greater general inflammation of throat. In some cases the exudate from the crypts is very tenacious, and sometimes the little dots coalesce, making diagnosis more difficult. As a rule, the exudate is yellower and easier to remove.

From scarlet fever in early stages: More sudden onset, higher fever, severer early nervous symptoms, and presence of epidemic. Evidence of eruption should always be looked for carefully. When eruption is delayed, the clinical diagnosis is less positive.

Catarrhal diphtheria looks like ordinary "sore throat," and cannot be diagnosed positively without demonstration of the bacillus with microscope. There may be the characteristic changes due to the bacillus in the epithelial cells of the mucous membrane, but they cannot be made out macroscopically.

Bacteriology has furnished us means for making a positive diagnosis of diphtheria in every case, if properly done and used in connection with clinical evidence. It is as important to have positive clinical diagnosis confirmed (except where one case follows another in the same family) as doubtful cases. So that the patient will not have to undergo all the disagreeable precautions of quarantine, disinfection, etc., unnecessarily. Further emphasis of the importance of doubtful cases is unnecessary. The presence of Klebs-Löffler bacilli on mucous membrane is not of itself proof of diphtheria, as they are sometimes found in healthy throats; but such cases should be watched. Nor should one examination be considered positive; but, in a suspected case, as many as three cultures should be made if the first two have been negative.

The fact that bacilli exactly like Klebs-Löffler, though non-virulent, are found in many cases, and another bacillus sometimes found so much alike as to be almost indistinguishable, makes not only cultures and microscopic examinations necessary, but experimental inoculation has to be done before the diagnosis can be complete.

LABORATORY TECHNIQUE.*

"Collection of the blood serum and its pre-

*Scientific Bulletin, No. 1, Health Department, New York.

paration for use in cultures. A covered glass jar, which has been thoroughly cleansed with hot water, is taken to the slaughter house and filled with freshly shed blood from a calf or sheep. The blood is received directly in the jar as it spurts from the cut in the throat of the animal. After wiping the edge of the jar, it is covered with the lid and set aside, where it may stand quietly until the blood has thoroughly clotted. The jar is then carried to the laboratory and placed in an ice chest. If the jar containing the blood is carried about before the latter has clotted, very imperfect separation of the serum will take place. The blood is allowed to remain twenty-four hours on the ice and then the serum is siphoned off by a rubber tube and mixed with one-third its quantity of nutrient beef broth, to which one per cent. glucose has been added. This is the *Loeffler blood serum mixture*.

"The broth is prepared as follows: One pound of finely chopped lean beef is allowed to soak in one litre of water in a cool place for at least twelve hours. The fluid is squeezed out through cheese cloth. To this solution one per cent. of peptone, one per cent. of glucose, and one half per cent. of common salt are added. If this mixture is acid, it must be rendered neutral by adding a few drops of solution of caustic soda. This is now boiled for half an hour and filtered. The mixture is now poured into glass tubes four inches long and two-thirds inch in diameter, which have been previously sterilized by dry heat for one hour at 150° C.

"In filling tubes, care should be taken to prevent formation of air bubbles. About 2 c. c. are sufficient for each tube. The tubes are now ready to be coagulated and sterilized. They are placed in steam sterilizer in such position as will expose largest surface possible of the broth, and kept for two hours at temperature just below boiling point—being careful not to allow to boil, or the culture medium will be spoiled. These tubes can be kept for months. The best swab for inoculating culture tubes is a stiff, thin steel iron rod, roughened at one end, around which a little absorbent cotton is wound. These swabs are placed in separate glass tubes with cotton in mouths and sterilized by dry heat at 150° C. for one hour.

To inoculate the culture tubes from suspected cases of diphtheria:—The patient's tongue is held down with a spoon and the swab is rubbed gently against any visible membrane, and without laying swab down it is immediately inserted into the blood serum tube and the part which has been in contact with the exudate is rubbed a number of times over the surface of

the serum; great care should be taken not to break the surface of the serum. Then the cotton is replaced in the mouth of the culture tube.

The cultures, after inoculation, are kept in an incubator at 37° C. for twelve hours, and are then ready for examination. The surface of the blood serum will be dotted with numerous colonies which are just visible. At this time no diagnosis can be made from simple inspection.

Microscopical preparation is now made by placing a drop of water on a clean cover glass; then a large number of colonies are swept from the surface of the culture medium with a platinum needle. The bacteria are washed off the needle in the drop of water and smeared over the cover glass. The bacteria on the glass are then allowed to dry. The cover glass is then passed quickly through the flame of an alcohol lamp three times in the usual way, covered with a few drops of Loeffler's solution of alkaline methyl blue, and left without heating for ten minutes. It is then rinsed off in clean water, dried and mounted in balsam.

In the great majority of cases, one or two pictures will be seen with the one-twelfth oil immersion lens; either an enormous number of characteristic Loeffler bacilli with a moderate number of cocci, or a pure culture of cocci, mostly in pairs or short chains. In a few cases there will be an approximately even mixture of Loeffler bacilli and cocci, and in others a great excess of cocci. Besides these, there will be occasionally met preparations in which, with the cocci, there are mingled bacilli more or less resembling the Loeffler bacilli.

In not more than one case in twenty there will be any serious difficulty in making the diagnosis if the serum tube has been properly inoculated. In such a case, another culture must be made.

CHARACTERISTICS OF THE LÖEFFLER BACILLUS.

The diameter of the bacilli varies from 0.3 to 0.8 m. m., and the length from 1.5 to 6.5 m. m. They occur singly and in pairs, and very infrequently in chains of three or four. The rods are straight or slightly curved; and usually are not uniformly cylindrical throughout their entire length, but are swollen at the ends, or pointed at the ends and swollen in the middle portion. Even from the same culture, different bacilli differ greatly in their size and shape. The two bacilli of a pair may lie with their long diameters in the same axis, or at an obtuse or an acute angle. The bacilli possess no spores, but have in them highly refractile

bodies. They stain readily with the ordinary aniline dyes and retain their color after staining by Gram's method.

Animal experiments form the only reliable method of determining with certainty the virulence of the diphtheria bacillus. For this purpose, alkaline glucose broth cultures of forty-eight hours growth should be used for the subcutaneous inoculation of guinea pigs. The amount injected may vary from one fourth to one-half per cent. of the body weight of the animal inoculated. In the great majority of cases, when the bacilli are virulent, this amount causes death within seventy-two hours. In the autopsy, the characteristic lesions described by Löffler are found.

Bacilli, which in cultures and in animal experiments have shown themselves to be characteristic, may be regarded as certainly true diphtheria bacilli, and as capable of producing diphtheria in man under favorable conditions.

PROPHYLAXIS.

Too much stress cannot be laid on the importance of diphtheria prophylaxis. Every child exposed should be at once given an immunizing dose of antitoxine and not allowed to associate with other children. Suspected cases should be immediately isolated. Children with weak throats, and especially enlarged tonsils, in case of epidemic, should use a gargle four or five times daily of 1-5 or 10,000 bichlorid solution with glycerine. For a patient with the disease, a large airy room should be selected with plenty of sunlight. All furniture and hangings should be removed except that which is absolutely necessary. Instruments used should be kept in 1-40 sol. carbolic acid and hands washed in 1-1000 bichloride. No one should see patient except physician and nurses. The physician should wear rubber coat when in sick room and disinfect hands and face before visiting other patients. After recovery of patient, room, bedding and clothing should be thoroughly disinfected. (For direction, see any text-book.) The patient should be isolated until the bacilli disappear from throat, and, if it is not possible to make bacteriological examination, for at least ten days.

TREATMENT.

In the treatment of any disease, all of us are too prone to use some new remedy which is said to be a specific, to the exclusion of other remedies which are known to be beneficial and used from a scientific standpoint. Especially has this been true in the treatment of diphtheria. As diphtheria is a specific disease pro-

duced by a bacillus, which grows and multiplies at the local seat of the disease, producing its peculiar poisons (tox-albumins), which, on being absorbed into the blood, give us the constitutional manifestations of the disease, the ideal remedy would be a germicide, which would destroy the disease in the beginning locally. We still look to the bacteriologist and pathologist for the remedy.

Antitoxin comes nearer than anything else answering the requirement. Investigation has not yet proven how it acts, whether by neutralizing the toxins in the system or by producing a condition in the blood and tissues making them more tolerant. At any rate, it has been abundantly proven that it modifies the action of the bacilli, both locally and constitutionally.

Many specifics have been proposed at different times, their use based on an erroneous idea of the nature of the disease. In my opinion, none of these have been more disastrous than calomel and the tincture of the chloride of iron, used extravagantly as they have been. It has been proven that there is a great reduction in the number of red-blood corpuscles in nearly every case; and every one has noticed the characteristic anemia, especially late. Enormous doses of calomel given continuously will increase this anemia and produce a condition of prostration, weak heart and asthenia, the very reverse of what we are striving for, viz.: an increase of the red-blood corpuscles and hemoglobin, so that the system will have all the resisting power possible. In my opinion, calomel is most useful, one or two grains triturated with bicarb soda, divided into ten or twelve powders, one given every one or two hours. This will stimulate general glandular secretion, and will act as a laxative, helping to resist the poisons and in their elimination. It is sometimes necessary to repeat this dose two or three times during an attack.

For reasons just given, iron in some form is always indicated, but not as a specific, nor in the enormous quantities recommended by some. It seems from a practical, sensible view, that the most easily assimilated—some peptonate preparation, should be given, and never in doses large enough to be embarrassing to digestion.

The concentrated beef juices, if they are practically what they seem to be theoretically, ought to make blood faster than any other food, and should be given along with ordinary milk diet. Although albuminuria is the rule in diphtheria, except in the severest cases, rarely is there oedema to amount to anything or any symptoms of uræmia. In nearly every case

alcohol is indicated, preferably good rye whiskey. It should be given often, well diluted, in small doses in mild cases; in severe cases, as a rule, as much as the stomach will tolerate, which is usually great. Its antiseptic action is unquestioned. In no disease is systematic and constant stimulation as necessary. Chlorate of potassium should not be given on account of its irritant action on the kidneys.

Strychnin, unless there is some special contra-indication, should be given in every case throughout the attack and during convalescence. The dose, as a rule, should be small at first, gradually increased, and largest during convalescence. There is always marked degeneration of muscles and nerves. Strychnin given in this way will do a great deal to prevent cardiac failure and palsies which so often follow.

External applications are often soothing, and sometimes help to relieve the congestion of the throat. Nothing is better than turpentine stupes; but should not be insisted on if they are annoying to the patient. It is unnecessary to say that no local application dissolves the false-membrane or destroys the bacillus; but thorough cleansing is of the greatest importance. Absorption of septic material is lessened and probably some germs are washed away. For this purpose a gargle of Thiersch's solution, if it can be used; if not, a spray used every one to four hours, alternated with peroxide of hydrogen of good quality, swabbed, if practical; if not, sprayed; diluted with one to two parts of water, if necessary, but never used in the nose, is the best local treatment. A fountain syringe should be used to wash the nose and rhino-pharynx.

For laryngeal cases, calomel fumigations and steam vapor inhalations from slacking of lime, used thoroughly and systematically, have been found of great benefit. *Intubation* is often necessary, and as done at the present day, has almost taken the place of tracheotomy. We see in the text-books little of the use of *oxygen gas* which is often indispensable and has saved many of these cases. It is especially needed where operation is impossible, and is often of great value even after operation has been performed.

The cold tar antipyretics should be avoided. Sponging with alcohol, if temperature goes above 103° F., is best.

For restlessness and sleeplessness small doses of Dover's powders. The diet should be liquid and composed largely of milk.

For at least two weeks after disappearance of membrane, antiseptic washes for throat and

nose should be continued. Iron and strychnine should be continued throughout convalescence.

Mild cases should be kept in bed, and in severe cases patient should always be supported when taking medicine or nourishment on account of danger of heart failure.

It may have been proven in experimental diphtheria that *antitoxin* is a specific. Practically, this has not been demonstrated in human diphtheria. Possibly we have few cases of pure diphtheria, the majority being mixed infections, and it is possible that some improvement may be made in the production of antitoxin; and when we are better informed as to its proper administration, we may find that we have already in antitoxin the specific. From what we know now, in my opinion, no part of treatment, as stated above, should be neglected, but used in connection with the serum in every case of any degree of severity.

It is needless to give a history of antitoxin or the mode of preparation. American manufacturers probably make the best, and the most highly concentrated serum should be used. It is thought that the large quantity of horse serum, that had to be injected, when the weak serum was used at first, was the cause of so many unpleasant effects noticed. These are becoming much less frequent now. To be most effective the serum must be used early. Damages already done to the vital organs by the toxins of diphtheria cannot be repaired by antitoxin. Always as soon as the diagnosis is made the serum should be given, and when there is an epidemic, as soon as the throat begins to get sore or there is suspicion of the disease.

The dose necessary has not been accurately determined; but should be larger than was used at first, depending upon the age of the patient and somewhat on the severity of the case. Infants bear proportionately larger doses. For children under two years the dose should be from 1,000 to 2,000 units; above that age 1,500 to 3,500 units. If there is not a decided improvement, temperature lowered, nervous symptoms lessened and some breaking up of deposit, in twelve to fifteen hours another dose of same size should be given; and still no improvement in six hours, a third dose. The unit is an arbitrary standard used to express approximately the amount of serum necessary to neutralize a given amount of toxins. No special made syringe is necessary. The concentrated serums now contain 500 to 1,750 units in 15 m., so that a specially large barrel is not needed. The needle should be small

and sharp, and the whole outfit thoroughly aseptic. The dose had best be given at one injection, and deep in the tissues, injected slowly, giving time for absorption.

The best results from antitoxin are gotten when given in the first twelve hours of the disease; good in the first 24 hours; after forty-eight hours the results are not so good; but at any time there is hope of benefit, and should always be tried.

The immunizing dose is from fifty to three hundred units, and in a majority of cases affords protection for thirty days.

In this connection, I will repeat a summary of report made by New York Health Department:

"According to thirty-five published reports, there 17,516 persons, children and adults, to whom immunizing doses of antitoxin have been given, with the result that, though exposed to infection from diphtheria in families and institutions, and during epidemics when the disease was raging, only 131 of those immunized were attacked later, and of them 129 were mildly affected (109 within thirty days and twenty after a month) and recovered; while only two died of the disease, one within and the other after thirty days from the time of injection. The two fatal cases received far too small doses to produce immunity or the diphtheria was complicated with other diseases not mentioned. The mild cases all recovered, in some a repetition of the injection being given." This report was made from statistics up to October 1st, 1896, and from nearly all over the world.

I will not bore you with a long list of statistics, and knowing that you all consider those from private practice most important, will give summaries of the reports made by the American Pediatric Society, which seems to be the fairest. The first is taken from Holt's *Diseases of Infancy and Childhood*, page 994. "*Results in Private Practice.*" The largest number of cases from this source has been brought together by the collective investigation made by the American Pediatric Society. This embraces 5,794 returned by 613 physicians from 114 cities and towns in America, with an average mortality of twelve and three tenths per cent. But in this report is included every case returned in which the serum was given, many of which were moribund at the time of injection, the serum being used only to gratify parents. If these cases and those dying within twenty-four hours after the first injection be excluded, there remain 5,576 cases, with a mortality of eight and eight-tenths per cent. Of

4,120, injected during the first three days, the mortality was seven and three-tenths per cent., or, excluding the moribund cases and those dying twenty-four hours after the first injection, but four and eight-tenths per cent. The diagnosis of diphtheria was confirmed by a bacteriological examination of 83 per cent. of these cases; in the remainder it rested upon the clinical symptoms."

It would appear that *laryngeal diphtheria* would afford the best test of the efficiency of antitoxin.

The following summary of the second report from the committee of the American Pediatric Society includes only laryngeal cases, and in which antitoxin was used. The investigation was made to find out, besides the mortality, the per cent. of cases requiring operation when antitoxin was used. (Published May 15, 1897, *Medical Record*):

Summary.—"Sixty thousand circulars distributed throughout the United States and Canada. Time allowance, the eleven months ending April 1, 1897. Whole number of cases in this report, 1,704; mortality, 21.12 per cent., (360 deaths). They occurred in the practice of 422 physicians in the United States and Canada.

Operations employed:

"(a) Intubation in 637 cases; mortality, 26.05 per cent., (166 deaths).

"(b) Tracheotomy in 20 cases; mortality, 45 per cent., (9 deaths).

"(c) Intubation and tracheotomy in 11 cases; mortality, 63.63 per cent., (7 deaths).

"Number of States represented, 22—the District of Columbia and Canada.

"Non-operated cases, 1,036; 60.79 per cent. of all cases; mortality, 17.18 per cent., (178 deaths).

Operated cases, 668, or 39.21 per cent. of all cases; mortality, 27.24 per cent., (182 deaths).

"Two facts may be recalled in connection with this paragraph. *First*, that before the use of antitoxin it was estimated that 90 per cent. of laryngeal diphtheria cases required operation, whereas now, with the use of antitoxin, 39.21 per cent. require it. *Second*, that the percentage figures have been reversed; formerly, 27 per cent. approximately represented the recoveries, while now, under antitoxin treatment, 27 represents the mortality. To put it in other words, before the use of antitoxin 27 per cent. recovered; now, 73 per cent. recover, and in this the severest type of diphtheria."

The present report will strike many members of the Society as revealing a mortality a

little too large in each of the two classes. The mortality is large—larger than the personal experience in private practice of many would expect. *The reasons for this are* (1), that antitoxin is still used too late, either from procrastination on the part of the physician or objection on the part of friends; or (2), in a half-hearted way, which shows itself in doses one-tenth or one-fourth as large as they should be. In truth, both physicians and the friends of the patient are timid.

"If the committee is asked to put forth the three most valuable points established in this eleven month's work, they are:

"*First.* The mortality of laryngeal diphtheria at present rests at 21.12 per cent.

"*Second.* That 60 per cent. approximately have not required intubation.

"*Third.* That the mortality of operated cases is at present 27.24 per cent."

After all, the most convincing evidence we have is that which comes under our own observation.

During the last few weeks I have personally questioned nearly all of the physicians in Danville, and find that the mortality of membranous-croup, until the advent of antitoxin, has been 85 to 90 per cent. Since then, there have been fifteen cases treated with antitoxin with only one death, which was an infant—the disease following an attack of broncho-pneumonia.

DISCUSSION.

Dr. E. C. LEVY, of Richmond, Va., in opening the discussion, said that Dr. Irvin had given a most excellent outline of the diagnosis and treatment of diphtheria, and that to go fully into details on these subjects would be as impossible in the discussion as it was in the paper. He wished, therefore, to limit his remarks to the consideration of one point under each division of the subject—*bacteriologic diagnosis and antitoxin treatment.* To these two were due the complete revolution in handling diphtheria which had been brought about during the past few years.

To describe the technic of bacteriologic examination in suspected cases of diphtheria would be profitless in this connection, since those who had the requisite laboratory equipment possessed also the information required, and to those lacking such equipment a mere verbal description would be valueless.

Of all the commonly given clinical points of distinction between diphtheria and pseudo diphtheria, not one was absolutely trustworthy. The general appearance, extent, and adherence of

the membrane, the glandular involvement, systemic disturbance, etc., were all points of value; but the first of these were unreliable, and the last named could be determined only at a time too late to be of real value in influencing treatment. Bacteriologic diagnosis could decide the question positively within twelve hours. This offered an easy solution of the problem to doctors in cities where the services of a bacteriologist could be secured, and under these conditions this valuable means of diagnosis should be employed in every case into which the question of diphtheria entered, and should not be reserved only for those cases commonly considered doubtful. The advantage of securing positive information could not be over-estimated, not only in regard to treatment, but also as bearing upon the question of isolation. The country doctor would ordinarily be forced to make his diagnosis from clinical evidence, combined, in some cases, with the history of an epidemic. While not one of the classic symptoms was positively trustworthy, still they were of great value where considered together, and offered all that could be relied upon in the absence of facilities for bacteriologic investigation.

Regarding antitoxin, there was practically a unanimous verdict in its favor among those who had employed the remedy to any extent. The importance of early administration and sufficient dosage seemed to be not yet fully appreciated. Wherever circumstances permitted, the remedy should be given in every case where there was a question as to whether or not the disease was diphtheria. If the case progressed satisfactorily, or turned out not to be diphtheria, no repetition would be necessary. Just here the value of bacteriologic diagnosis was most valuable, since before the time for a second injection the nature of the case would have been positively determined. It was useless to go into statistics to prove the value of antitoxin. The employment of the remedy in a few cases would convince the most skeptical.

While speaking on this subject, mention must be made of the sad spectacle of Behring's securing a patent on antitoxin in this country. By such unethical conduct, he had fallen from the position of a benefactor to the human race down to the position of a mercenary schemer, to be classed along with the inventors of the obstetric forceps.

The value of calomel fumigations had been mentioned in Dr. Irvin's paper. In many cases of urgent dyspnea from laryngeal diphtheria, the employment of this remedy would

give satisfactory and, at times, marvelous relief, until the antitoxin had time to act, thus dispensing with operative procedure. The advantages of calomel fumigations over steam inhalations from the croup-kettle or slacking lime were the greater ease and cleanliness of the procedure, as well as its more prompt and satisfactory action in most cases.

As regards operations for laryngeal obstruction, intubation was the ideal procedure when the physician was expert in its performance. Where this was not the case, it would be best for him to resort to *tracheotomy*, as there was no question of any physician's getting into the trachea with a knife where it was urgently demanded, whereas great damage and ultimate failure would usually result from the attempts of an unskilled operator to perform intubation.

DR. H. G. LEIGH, JR., of Petersburg, Va., who was the other Fellow elected to open the discussion, had nothing to add to what had been said.

The President then announced the subject open to general discussion by those present in the order of their recognition by the chair.

DR. J. H. NEFF, of Harrisonburg, Va., remarked, regarding intubation, that it is often demanded by country doctors remote from postoffices or telegraph stations, or druggists who keep supplied with antitoxin. It is an easy operation to perform if the party has had any practice in it. Country doctors should perfect themselves in the operation by practicing it on some willing subject. A set of O'Dwyer instruments should be in every emergency case of the country doctor; he should not consider himself equipped without it.

DR. HENRY D. HOLTON, of Brattleboro, Vt., remarked that an important point in the clinical diagnosis of diphtheria consists in the swelling of the posterior glands of the neck. Some cases of diphtheria in the cities of his State have been traced to the emanations from the man-holes of sewers. Vermont has a bacteriological laboratory, and test-tubes properly prepared to receive the scrapings from supposed diphtheritic surfaces are to be found in all city drugstores. These are properly sealed and sent to the laboratory, and reports of results of examination are telegraphed at the earliest practical moment. As for himself, in suspected cases, he does not wait for the laboratory report to come back to him. Practically speaking, his only treatment is the administration of antitoxin hypodermically. The general experience of the doctors of his city as to the value of antitoxin is that it is so generally

curative that the physician who does not use it, and as soon as possible, would be considered criminal.

DR. GEORGE ROSS, of Richmond, Va., stated that he uses antitoxin as the most important factor in treatment; but he would feel that he had not fully done his duty unless he had also used other well known remedies, such as muriate tincture of iron, mercuric bichlorid, whiskey, concentrated foods, etc. He mentioned a desperate case of laryngeal diphtheria in which he thinks other things than antitoxin were very material helps in the cure of the disease.

DR. WM. T. OPPENHIMER, of Richmond, Va., remarked that as health officer of that city he had often noticed the occurrence of different infectious diseases in the same house in different years.

DR. H. E. JONES, of Roanoke, Va., believes in the adoption of every line of treatment that comes from a scientific source. He uses all the old time remedies that have proven themselves valuable, but would feel himself culpable if he did not also use antitoxin in view of the wonderful reports that are constantly coming from the medical world.

DR. L. B. ANDERSON, of Norfolk, Va., after long study of the causation of diphtheria, feels like exclaiming, in the language of one of our Congressmen, "Where am I at?" One authority tells us that he is constantly finding bacilli in the throats and mouths of children, and yet no diphtheria. Another authority recalls that he has had numerous cases of diphtheria, and yet no bacilli are to be found. Such contradictory reports coming from different eminent authorities leads him sometimes to doubt the accuracy of any statements that have been made as to the specific curative bacteriology of diphtheria. There appears to be reason to believe that bacteria are nature's scavengers—that they help to get rid of the disease, and are not themselves the causes of diphtheria or other like infection. He is unwilling even yet to commit himself to the full acceptance of the doctrine that because the Klebs Löffler bacilli are often found in diphtheria, they are the cause rather than the agents of cure of the disease. He thinks the profession is going too fast in so emphatically giving its endorsement to antitoxin as the cure of diphtheria. When reports of good from its use come in, we hear immediately afterwards of its long list of failures. If it is a good thing, let us first prove it before becoming so enthusiastic in its favor.

DR. LIVIUS LANKFORD, of Norfolk, Va., does not see how any doctors who have timely used antitoxin can doubt its curative as well as its

immunizing virtues. He referred to several cases in his practice in which the immunizing and curative effects of the use of antitoxin had proven most satisfactory. In cases of croup, he was wedded to the older remedies; and even in such cases, if he feared the association of diphtheria, no damage had ever resulted from the conjoint use of hypodermics of antitoxin.

DR. STUART MACLEAN, of Richmond, Va., would like to know if Dr. Anderson had followed up the history of bacteriology. Can he explain on any other doctrine than that Klebs-Löffler bacilli are the cause of diphtheria, when it is shown beyond controversy that the introduction of pure cultures of these bacilli into the system is followed by diphtheria, and only diphtheria? The changes which the toxin of the bacillus undergoes in the system also cause at least a temporary immunity against the disease.

DR. J. PHILIP SLAUGHTER, of Theological Seminary, Va., spoke in the same general line as Dr. MacLean in rebuttal of the skepticism of Dr. Anderson. Of course what did good before the introduction of antitoxin is still valuable in diphtheria. So that he urges the use of general remedies along with the injection of antitoxin treatment.

DR. JACOB MICHAUX, Richmond, Va., said that during a period of over one year he had used locally undiluted Monsel's solution—applied with a cotton swab when that was tangible—and so far his results have been especially gratifying. This application is usually quite painful, and with quite young children he did, at times, have to use the drug reduced in strength one-half. In some cases, he had found its use in the form of a fine spray much preferable. Monsel's solution is not incompatible with antitoxin or the other customary remedies, and, therefore, they may be used in conjunction. Good results follow, as a rule, in about 24 hours, sometimes less. It does not excoriate but peels off the membrane.

DR. J. H. MAPP, Buena Vista, Va., regrets that any practitioner should express a doubt as to the efficacy of antitoxin. His own experience, and that of other doctors with whom he has been associated, abundantly satisfies him that, properly and timely used, antitoxin comes near being a specific in incipient diphtheria, and generally valuable, even when used after the second day.

DR. T. W. SIMMONS, Martinsville, Va., remarked that he had not had a case of diphtheria for the past five or six years, and for this reason he has not used antitoxin. His experience with the disease had led him to look upon

all malignant cases as bopeless, regardless of the line of treatment followed. Whenever he was called upon to attend a case of this kind, he had gotten the best results from the use of calomel, chlorine, and liquor. Monsel's solution he had used, and he agreed with Dr. Michaux in his remarks on the subject.

DR. C. R. BURKS, Sherwood, Va., said he does not believe in "bugs" as the cause of diphtheria. The value of turpentine in the treatment of the disease has not been insisted upon. He uses it locally and internally. Full doses of whiskey form a most excellent adjuvant.

DR. SWITHIN CHANDLER, Wilmington, Del., remarked that an important duty of the physician is to prevent those exposed to the germs of the disease from having it. He referred to a malignant case of diphtheria in one family who was seen by at least twenty visitors before the nature of the disease was recognized. As soon thereafter as possible, all were immunized by antitoxin hypodermics, but no other than the original case occurred. As to the proper therapeutics of the disease, we must not forget that it is a ptomainic one. Hence we have to give medicines as indicated to combat the poisonous effect in the system. Back of the germs that produce the disease, we must be watchers of the condition of the patient. Treat the morbid conditions as they present themselves. Use judgment in prescribing. Give the older, well approved medicines as occasion requires, or as experience has approved; but be sure to use antitoxin in doses as needed. Sometimes ten to twenty injections of antitoxin may be demanded in a given case; but generally speaking, one or two hypodermics at intervals of six to ten hours have been sufficient.

DR. D. A. KUYK, Richmond, Va., thinks prevention is better than cure. We should educate the public to an appreciative sense of the importance of prevention of diphtheria, so that we may get their united help in applying the means of prevention. He has often noticed families in which there has recently been diphtheria or other infectious disease moving from house to house without using any means of disinfection of the befouled houses. Such wanton exposure of innocents to disease should be taught to be either criminal thoughtlessness or criminal indifference as to the effect of the infected house air, walls, etc., upon those who are moving in. Many cases of diphtheria might undoubtedly be traced to such criminality if we had the means of ferretting out the cause of each case. It should be an irrevocable law, required to be strictly executed, that parties moving out of a house in which

diphtheria or other infectious disease has existed, should be required that that house shall be fumigated and thoroughly disinfected. If the people were taught the great importance of this measure, they would soon learn to demand that the house into which they are about to move should likewise be first thoroughly disinfected.

DR. IRVIN closed the discussion with the remark that while appreciating the compliment of the discussion which his paper had provoked, he had nothing specially to add to it.

MICROSCOPICAL DIAGNOSIS OF TYPHOID FEVER.*

By H. STUART MACLEAN, M. D., Richmond, Va.,

Lecturer on Bacteriology, University College of Medicine;
Bacteriologist to Virginia Hospital, etc.

The diagnosis of typhoid fever in obscure cases can often be confirmed by the use of the microscope. A positive diagnosis can be made by bacteriological examination of the stools, in which the typhoid bacilli will always be found. Unfortunately, this method has not become generally used because of the time and labor, as well as the variety of appliances necessary. Of late, however, the process has been simplified by the use of certain culture media, upon which no bacteria but the typhoid and colon bacilli will grow. Elsner's method consists in the use of a mixture of gelatin, potato juice, and iodide of potash, acid in reaction from the acids normally present in the potato. Upon this and other similar substances the development of the ordinary liquefying saprophytes does not occur, and a process which formerly took days of investigation and a large array of apparatus, may now be done in much less time and with a very simple outfit.

The bacilli occur in the urine in about 25 per cent. of the cases, hence examination of the urine is apt to be negative. The infected urine usually contains albumen, although in a few cases it has not been present. Late in the disease the bacilli are apt to appear in great numbers. The importance of this observation lies in the necessity for the disinfection of the urine.

A most valuable confirmatory test, which is very seldom used, is examination of the blood. Cabot,† in speaking of typhoid fever, says:

* Read at the Twenty-ninth Annual Session of the Medical Society of Virginia, Virginia Beach, August 31, 1898.

† *Clinical Examination of the Blood*, p. 170.

"There are few diseases (outside of those known as diseases of the blood itself) in which the blood count is so often of value in diagnosis. The diagnosis of typhoid fever is to be made by exclusion—exclusion of other causes of fever and of local inflammatory processes in particular"; "almost all local inflammatory processes have leucocytosis, while typhoid (uncomplicated) does not." In two cases which clinically appeared to be typhoid, blood counts showed marked and persistent leucocytosis, and further developments proved them to be cases of abscess of the liver. This forcibly illustrates the value of blood examination for any deep seated suppuration. In other cases the blood count has rightly differentiated between typhoid and appendicitis. Late in the disease various complications, such as otitis media, perforation or abscess, will lessen the value of this symptom, but, in the early stages, the absence of leucocytosis is strong confirmation of a diagnosis of typhoid. Examination of the blood is indispensable in differentiating typhoid from malaria. The absence of the parasite after careful search is both proof that the case is not malaria, and, if there is no leucocytosis, strongly confirmatory of typhoid, as these are most frequently confounded. Occasionally the typhoid bacilli may be found in the blood, but so seldom as to render no assistance, and only in typical and severe cases.

Widal's reaction is the most uniformly reliable test at our command. Even this reaction has failed in some few atypical cases. Dr. W. G. Thompson names 23 as the per cent. of possible error. This is not in accordance with the experience of many writers. His high per cent. of failures is probably due to the fact that he believes the test to succeed in 12 per cent. of cases where it ought to fail; if the test be properly applied, accurate dilution employed, and the previous history of the patient ascertained with reference to a previous attack of typhoid, such is not the case. Cabot says: "Out of over 1,000 cases of various diseases not typhoid, but four have been proved to clump typhoid bacilli with proper technique"; and he suggests that even this small error may be avoided by improved technique.

The method of applying this test is familiar to you all, consisting in the addition of fresh or dried blood, or blood-serum from the suspected case, to a twelve to twenty-four hour peptone bouillon culture of the typhoid bacilli, in a proportion varying from 1-10 to 1-200. Upon examining a hanging drop slide of this mixture, if the case be typhoid, it will be noticed that the bacteria gradually move more

slowly and gather together in groups, ultimately forming large, compact clumps, with few or many bacilli lying between, depending upon the completeness of the reaction. In a typical, marked reaction there are no free bacilli, and all motion is lost; in so-called pseudo-reactions there is only partial clumping and partial loss of motion. The reaction may take place immediately or may be delayed for some hours.

The cause of this agglutination, of the significance of which there can be no doubt, is not definitely understood. It is not due to the motility or any other vital force of the bacilli, as Widal and Sigard* have demonstrated that typhoid bacilli, in bouillon, killed by the application of a low temperature, or the addition of a small quantity of formal, may be used in place of the fresh culture. Unless the culture thus "embalmed," as Cabot calls it, is an active, fresh one, the results are not so reliable. This clearly proves that the action of the serum is not germicidal. It has likewise been demonstrated, by applying the serum of Arabs, in whom the disease is singularly rare, to cultures of typhoid bacilli, with negative results, that the agglutinating power of the blood is not necessarily connected with either natural or acquired immunity. It seems most likely that it represents the presence of active defensive agents produced during the course of an infection.

While I do not intend to describe the process in detail, I wish to call attention to one step. In making the test, I have always used the serum obtained from a small fly blister. The fresh blood method obscures the field, while the use of dried blood is inexact, and the fibrin leads to false clumping. When the blister has formed sufficiently, I withdraw the serum in a glass bulb, which is afterward sealed at both ends. This bulb is made from an ordinary medicine dropper or a piece of glass tubing. The end is drawn out finely and sealed. Then, at a point about one inch distant, it is again drawn finely, care being taken not to occlude the lumen of the tube here. We now have a small chamber connected with the rest of the tube by a very fine opening and sealed at the distal end. When about to draw the serum, the sealed end is broken off and the point is plunged into the blister, when suction is applied either directly to the glass tube or through a rubber tube, and the bulb filled. Both ends are now sealed in the flame, and the bulb may be safely sent through mail to a bacteriologist or may be kept indefinitely for the purpose of

demonstration, as during its preparation it is necessarily rendered sterile. This method has recommended itself to me because it allows of accurate and simple technique, and by its efficacy.

During the past year I have been called upon to apply Widal's test in twenty-eight cases, and in twenty-seven of these the further clinical course has substantiated the microscopical diagnosis. One case, examined upon the twelfth day, did not give the characteristic reaction, and the case ran a typical typhoid course. Unfortunately, I did not have opportunity for making another test. These, I might add, were almost all cases in which some doubt was entertained as to the nature of the disease.

The profession at large have, in the main, failed to utilize microscopical methods as aids to accurate diagnosis, apparently not because of any knowledge that they are unreliable, but simply through indifference, not realizing that while the laboratory worker may work out these various methods, yet the task of applying them and proving their efficacy most assuredly lies with the practicing physician. Neither is it sufficient to show that a given test is subject to some variation or occasional error to warrant its rejection; the physician should demonstrate what value there is in it, and then use it as occasion arises.

The general practitioner now must use the microscope as he does the thermometer and stethoscope, or have resource to some properly equipped laboratory. It is impracticable that every case be referred to a microscopist. The physician can and now must do much of it himself, if he would give the patient the benefit of every means that will aid in the diagnosis or treatment of the case.

In closing, let me emphasize a few points.

1. The absence of leucocytosis is strong evidence that an existing fever is typhoid, malarial fever being excluded by absence of the plasmodium.

2. If leucocytosis does occur in the course of an unmistakable case of typhoid, it indicates some untoward complication.

3. Both feces and urine should be carefully disinfected throughout the course of the disease. Too often directions to this effect are omitted by attending physicians.

4. Widal's reaction is diagnostic in many cases in which, at the time, the clinical findings are obscure.

5. The value of serum diagnosis, as well as other methods, must be determined by the practitioner who controls the cases upon whom the tests may be made.

*Paper read before the Society of Biology at Paris, February, 1897.

THE BACTERIA OF ENTERIC FEVER.*

By HENRY D. HOLTON., A. M., M. D., Brattleboro, Vermont.

[In the preparation of this paper, the researches of Martin, Robertson, and the reports of the State Board of Health of Massachusetts have been valuable aids.]

Forty five thousand persons die every year in the United States from typhoid or enteric fever. This means that four hundred and fifty thousand suffer from the disease, requiring the expenditure of probably \$450,000,000. It certainly is not amiss for us to give a little time to the consideration of the bacillus which gives rise to so much sickness and death.

The putrefactive bacterium, we know, produces intense irritation when introduced into the system affecting the central nervous system, often tending to the production of spasms, stupor and coma.

Bacterial poisons are of three kinds: (1), The poisons secreted by the bacterium itself. (2), The products of the digestive action of the bacterium—that is, albumoses. (3), The final non-proteid products.

These three poisons are extra-cellular, and are the secretions of the bacillus; while the inter-cellular poisons are contained in the bodies of the bacillus.

Hence, we have two kinds of infective diseases, one of which is a toxæmia or blood-poisoning. In these cases there is fever to some extent and a change in gland structure. In the second class of cases there is not only the toxæmia, but there are specific symptoms especially of the nervous system.

A conspicuous example of the first class is *enteric or typhoid fever*. It should be borne in mind that a very small quantity of these poisons will produce a very powerful effect; that the effect does not always follow directly after the poisons have been taken, but that often no apparent change takes place for a considerable time (a period of incubation), that they may affect special organs, or may interfere with the general nutrition of the body.

In connection with enteric fever, we briefly study three forms of *micro-organisms* which are somewhat alike; Dr. Vaughan, I believe, says five. However, the Eberth or typhoid germ, the bacillus coli communis and the bacillus enteritidis of Gärtner, have certain points of similarity, and yet of difference, so that we may consider them as a group. Milk is coagulated by the coli communis, but not by the typhoid bacillus or the Gärtner. Neither the

coli or Gärtner give the serum reaction with the blood of a typhoid patient. It is not believed that the coli or Gärtner will produce typhoid fever, but the Eberth germ will. Thus we may say the *bacillus coli produces peritoneal diseases*; the *Eberth germ typhoid fever*, and the *Gärtner is present in poisoning from decomposing animal food*. The typhoid and Gärtner bacilli are found in the intestinal canal; the coli communis, while found in the intestinal tract, is also found in the peritoneal cavity.

The typhoid germ is pretty sure to be in the intestinal lesion, the mesenteric glands, in the spleen, in the liver, in the alvine evacuations, in the urine, and in the blood. Dr. Martin, in his experiments on animals with the poison of typhoid bacillus, found that "no effect was more marked or more constant than the production of diarrhœa, which, with the active poison, is very profuse, lasting a varying time, and consists in the passage of liquid motions, with mucus occasionally, but no blood at any time." On post-mortem of the animal, characteristic appearances are almost invariably found. The stomach may be found with undigested food; the cecum and colon contain liquid fecal matter, but the greatest change is in the small intestine, which is full of a slightly turbid, sticky fluid, containing but little food and no bile. The mucous membrane is a little soft on the surface; there is a large increase in the goblet cells. The Peyer's patches were not apparently altered.

Experiments with the *Gärtner bacillus* also showed diarrhœa without blood and but slight changes in tissue, but this bacillus was found more profusely distributed through the organs of the body than was the typhoid.

The *bacillus coli communis* differs from the other two, in that it is a constant inhabitant of the intestine, being found there soon after birth; and after death it penetrates the different abdominal organs, and is one of the causes of putrefaction of the body. The animals experimented on did not have diarrhœa, and the other toxic effects were more irregular than with the other two bacilli.

It may be well to call attention to the fact that there are two poisons not of bacterial origin which produce symptoms of a general toxæmia which is remarkable in its resemblance to the action of the three bacilli already described. These two are *ricin* from the castor-oil bean, and *abrin* from the seed of the abrus precatorious. They cause diarrhœa with general prostration.

It seems probable that the effect on the intestine from all these poisons, occurs during the

* Read by invitation before the Twenty-ninth Annual Session of the Medical Society of Virginia, held at Virginia Beach, Va., August 30-31, and September 1, 1898.

excretion of the poison by the mucous membrane. It would seem that very little is known of the nature of these poisons. They may be albuminous substance or ferments or crystalline chemical substances. It is a fact that the introduction of one of these bacilli, or poisons, does not render the system immune against any of the others, but does increase the activity of each other. If the bacillus coli is present when the typhoid bacillus is introduced, it renders the typhoid germ more active and very much expedites the migration of them to the various tissues of the body, where they have been found—namely, in the spleen, liver, muscular tissue, kidney, and its secretion, urine. A case has been recently reported where they were found in the puerperal uterus of a woman who had nursed her husband ill with typhoid fever until he died. She was confined on the same bed on which he had been sick, and it seems probable that these bacilli were introduced from the bed directly by the hand of the midwife. While there was mixed infection, the clinical history, as well as Widal's test, left no room to doubt that the patient suffered from typhoid fever.

It is well for us to very briefly consider the questions: Can we have enteric fever without the presence of the typhoid bacillus? Is it possible to have an auto-infection by poison ptomaines similar to that already described as emanating from the bodies of the typhoid bacillus? We have already spoken of the effects of two vegetable derivatives that give rise to many of the symptoms known to be produced by the bacillus typhosus.

We may state without fear of successful contradiction, that this bacillus is present in every case of typhoid fever, being found in the lesions of the intestines, the mesenteric glands, spleen, usually in the urine, and the blood as shown by the Widal test. It is true that we have a fever from a mixed infection in which we get many of the symptoms of true typhoid, and in these cases is demonstrated the value of Widal's test, which will show us if the typhoid bacillus is present. In over five thousand cases reported as having had this test applied, in 96.3 per cent. clumping has occurred, demonstrating the presence of the typhoid bacillus.

I do not believe that enough attention has been given to the presence of the bacillus in the urine and in the different organs of the body. The bacilli have been found in the urine as early as the third day and for two months after defervescence. In the first instance, sufficient care has not been exercised to disinfect the urine, especially when the dis-

charge of this secretion has been involuntary. I can recall more than one instance where the solid bedding has been sent to be laundered and by this means the disease has been spread.

These facts should emphasize the instructions given the nurse and those about the patient to exercise the most scrupulous care in disinfecting their hands, or any vessels which may have become contaminated with urine. It has been shown that the bacillus which finds its way into the various organs and tissues of the body may remain in a dormant condition for some time, ultimately to become active perhaps by an increase in numbers of the bacillus coli, or by rendering them more active by reason of the increased virulence of the bacillus coli. This explains the origin of some cases which have occurred in patients living at the time in perfect sanitary conditions, but who had many weeks before, under other conditions and in other places, received into their system the typhoid bacillus which had been there stored up awaiting the appropriate conditions to cause its activity and the consummation of its mission.

Having very briefly considered the action of bacteria in causing enteric fever, it is desirable that we should seek the sources from which they are most likely to invade the system.

The first is polluted water. The relation of water to disease is not new; during the long ages of history mankind has revolted against polluted water. We have only to look to ancient Rome with her nineteen great aqueducts, its 1,300 fountains, and its thousands of baths, to realize that the vigor and intellect of her citizens had a full appreciation of the necessity of pure water, and plenty of it. The great number of cases of enteric fever resulting from the pollution of wells by leaking sewer pipes or percolating water-closets and privies, must be familiar to you all. It is, however, doubtful if this pollution would actually produce enteric fever, unless with the pollution went the Eberth germ. Many years ago, in a large manufacturing town, it was not uncommon for the wells, from which the water supplying the large boarding-houses was drawn, to become unwholesome by reason of the cracking or overflowing of the brick vaults which were in use by the inmates of these same boarding-houses, yet none of them contracted typhoid fever for several years; finally there came from a distant village, where typhoid fever was prevailing, a young woman to work in one of the mills. Quite soon she developed the disease, the alvine discharges and urine were emptied into the privy vault; this vault leaked and the contents

found its way into the well, the water from which was used in the house; the result was many cases of typhoid fever among those drinking that polluted water. Similar results from the contamination of wells on farms have repeatedly come under my observation. There are on record repeated instances where public water supplies have been infected, the result being in every case a most disastrous epidemic of typhoid fever.

Two such epidemics in my own State are types of all, and they are given with some detail, in order to impress the lesson of prevention that ought to prevail everywhere. The town of Windsor is situated on the Connecticut river; it has a population of 1,846 persons. In this town is located the State's Prison, which had about 198 inmates. Until the 15th of March, 1894, it had been a particularly healthy community; on that day a case of typhoid fever was diagnosed, but little was thought of this case until the 24th, when a large number of persons were found to have the same disease; in fact, there was before April 6th, 90 cases, and before the close of the epidemic there had been 130 cases with 17 deaths. Every case was traced to the drinking water. The water supply of the village came from a brook which was dammed, making a reservoir sufficient to supply the village with good water free from pollution for fifty years.

In the month of January previous, a person had come from a New Hampshire town, and from a family where typhoid fever was prevailing, to live in a farm-house about 200 feet from the brook which was the source of the water supply. The house and out-buildings stood on an elevation about 30 feet above the brook. Nature had formed a surface drain leading from these buildings to the valley below. This person came down directly with a very mild typhoid fever, the excrements from the patient were thrown into the common privy. All went well until about the first of March, when a spring thaw attended with rain came on and the contents of the privy were washed, with the melting snow and rain, down into the brook, into the reservoir, and into the pipes carrying water to the homes of the villagers, with the result already mentioned.

It will be observed that the germs of the disease were held by the frost for two months, when they were liberated by the thaw and rain, and sent on their errand of death. It should be further noted, that for the fifty years this brook had supplied the village water; its course had been past five farm-houses, and received the surface water and drainage from the high-

way for two miles, but during all this time these farm-houses and the highway, while carrying more or less organic matter into the brook, had *not* supplied the specific bacillus, the Eberth germ, hence had not given the users of this water typhoid fever. During this epidemic, there was not a case of the disease within the prison, which was supplied with water from another source.

In another town, whose population was rapidly increased by reason of the opening of large quarries, they dammed a stream some three miles from the village for the purpose of getting a sufficient supply of water. The State Board of Health called the attention of the public authorities to the fact, that a half mile above the intake was a village of about 1,000 inhabitants, whose houses and shops were either directly on the stream or some of its small tributaries, or so situated as to drain into them; that in view of these facts, there could be no doubt about the danger which would attend the use of this water. It was pointed out that one case of typhoid fever among the people of this village would endanger the lives of all the users of this water. However, they persisted in carrying out their plans, and this became the water supply of the large town three miles below.

Two years later, the *one* case of typhoid fever came from a distant town; this water supply became polluted by the evacuations of this one case, resulting a month later in one hundred and sixty cases among the users of this water, and the death of twenty-six of their number. What think you would have been the verdict of the people of the State if the attention of the authorities had been called to a band of marauders encamped in the mountains and likely at any time to descend upon the town and attack its citizens? Yet nothing was done to prevent the attack which subsequently was made, one hundred and sixty persons wounded, many barely escaping with their lives, and twenty-six of the number actually dying—have you any doubt the verdict would have been, guilty of manslaughter?

These two cases are typical of the spread of typhoid fever by contaminated water, and are sufficient to impress the fact that the bacillus of this disease lives in water and ice for an indefinite time; while only two instances are cited, more than a hundred could be presented, all similar in their histories and results. We must not fail to recognize the epidemics of this disease that have been spread by milk. You are all familiar with many reports that have been made of the germs conveyed in milk.

The rinsing of the cans in water found to be contaminated by the typhoid bacillus has been sufficient to pollute the milk, and by this means convey the typhoid bacillus to the consumers of the milk. Prof. Dabney, of your University, reported in 1893 an epidemic which was conveyed by milk, the germs gaining access by reason of the cow's udder being washed with water which contained typhoid bacillus.

It seems well established that *oysters taken from beds to which sewerage has access* are very likely to be infested with the typhoid bacillus. Numerous cases of typhoid fever have been recorded which were traced to the eating of such infected oysters.

It is an accepted fact that the bacillus of typhoid will live for an indefinite period; it has not been generally accepted that it would live and develop in soil, but experiments conducted in 1896 and 1897 by Dr. John Robertson, Health Officer of Sheffield, England, demonstrates this to be a fact. Since these experiments were made, they have been confirmed by Prof. Delipin, who demonstrated their presence in the soil of an infected area. Dr. Robertson selected a field which had not been manured for ten years, and which examination showed to be barren of the bacillus; the turf was removed, and nothing was allowed to grow on it; a bouillion culture of bacillus typhus was diluted with water and the patch was slowly drenched with it on its surface. A second patch had nine inches of soil removed and a third eighteen inches, when they were treated to a similar inoculation, and the soil which had been removed was replaced. For the next three months the weather was rather dry, with abundance of sunshine; samples taken at this time from the various patches not only showed the bacillus of typhoid fever, but it was evident that they had multiplied to a considerable extent. Following two months of wet, dull weather, the results were the same. A month later, during which time the weather had been cold, damp, and for a week freezing, a careful examination did not show the presence of any bacillus. For two months nothing was done to these patches; after that time, for six months, two were irrigated every two weeks with dilute organic solution, which were, however, free from any bacilli. At the end of this time, another careful examination was made of all the patches; the one not irrigated was devoid of bacilli, but in the others abundant bacillus was found, and at the end of another month they were examined with the same result.

These experiments prove that the typhoid

bacilli will gain in soil, and that the rains of summer or the frosts and snows of winter do not kill them. The fact that they disappeared from some of the patches that were not fed with organic material, but continued to thrive in those that were so fed, shows us what may and probably does take place when a leaking or broken sewer pipe is feeding the surrounding soil with organic matters, especially if the discharge from a typhoid case are being emptied into the sewer. It has been held as true that the sunlight was sure to kill the typhoid germs, but these experiments show—that while the gericidal power of sunlight was effectual in killing the germs actually on the surface—it had not carried death to the depths of only a sixteenth of an inch.

Another point of interest and importance is whether the bacillus can be given off from decomposing filth, either liquid or solid. To determine this question, sterile plates, gelatine plated, were inverted over masses which had been thoroughly contaminated with typhoid bacilli. After a time they were examined, and they showed a growth of various organisms, but without a single typhoid bacillus among them.

These experiments, taken in connection with those of Kruse, in which different kinds of earth and substances infected by Eberth bacillus were reduced to a dry dust and transmitted through the air, it proved that the germs did not resist complete desiccation, hence were harmless in the state necessary for them to float in the air. The great danger lies in the power of the germs to live for a long time when desiccation is incomplete, and in the bacillus adhering to substances which easily retain moisture.

Having reviewed very briefly the bacteria which produce enteric fever, their methods of action, and the means by which they gain access to the body, we desire to call attention to the means to be used in order to prevent their entering the body. The taking of oysters from water contaminated with sewerage, or the fattening and development of them in such waters, should be prohibited by law. It should be impressed on the public that there is great danger in using water polluted with excreta or drainage from filth sources. That dairymen and milkmen should be made to understand the especial need of pure water for use in all operations in their departments. Every dairy should be inspected with special reference to the water used for the cows, as well as for that used for all other purposes about the room or utensils.

So many of our rivers are now used as outlets for sewers that the question of unpolluted water for drinking purposes has become a question of vital importance. One of the solutions, if not the best, is filtering the water either by mechanical means, as is now done in several places, or by what is known as sand filtration, as practiced at Lawrence, Mass., as well as in London, Berlin, and other European cities. At all of these stations it has been demonstrated that 99 per cent. of pathogenic bacteria are removed from the water by this process of filtration. At Lawrence during the first year, 1894, that the filter was in operation, the bacterial efficiency of the filter was 98.46 per cent.; in 1895, it was 98.25; in 1896, 99.32 per cent. The results in life saving are most satisfactory. In 1887, the deaths in Lawrence from typhoid fever were 11.75 per 10,000 of the population; in 1888, 12.0; in 1889, 13.75; in 1890, 13.33; in 1891, 12.20; in 1892, 11.11 per 10,000.

During 1893 the filter was built; hence, in 1894, filtered water was in use, and the death rate from typhoid fever was 5 per 10,000; in 1895, it was 3.07; in 1896, 1.86; in 1897, 1.62 per 10,000. Thus it appears that for six years previous to the construction of the filters, the average death rate from typhoid fever was 12.36 per 10,000, while during the four years following, while filtered water was used, it was 2.86 per 10,000—a reduction of 76 per cent. What a wonderful saving of life and suffering! We fail to realize what this work in sanitary science means to the future of our race.

"The truths we urge are borne abroad

By every wind and every tide;

The voice of Nature and of God

Speaks out upon our side.

The weapons which our hands have found

Are those which Heaven itself has wrought—

Light, Truth and Love."

DISCUSSION.

DR. R. L. BARRETT, Louisa C. H., Va., said that some fifteen or twenty years ago, during a session of the Society in Richmond city, while yet the questions about bacteria were fresh and new, he made some experiments with reference to vaccination in typhoid fever. The late Dr. L. S. Joynes, of Richmond, an ex-President of this Society, and known far and near for the careful accuracy of his every statement, reported (in *Stethoscope*) that seven cases of typhoid fever had been cured by vaccination. Dr. Barrett himself had lately vaccinated a case of incipient typhoid fever, and it passed off into a mild case. He believes that vaccination will abort an attack of typhoid fever. Let vaccination be done during the prodromic

stage of the disease. It won't do any harm if it fails to do good.

DR. HELTON, of Brattleboro, Vt., had nothing further to add to his paper. But as he was about to leave for his home, he would avail himself of this opportunity to thank the Society for the courteous invitation to be present, and for the cordial hospitalities shown him. He hoped Virginians would return the compliment of sending delegates to Vermont.

CASE OF EXTRA-UTERINE PREGNANCY— OPERATION—RECOVERY.

By E. A. WAUGH, M. D., Lynchburg, Va.,

Surgeon to Marshall Lodge Home and Retreat, Lynchburg, Va.

On the first day of May, 1898, I was called to see G. L., aged 24 years, who had been suffering for about a half hour with a violent pain, cramp-like in character, in the hypogastric region. The pain had commenced while the patient was in the bath-tub taking a bath, and was so great that she could scarcely get to the bed. When I saw her a half hour later, she was lying in bed with the legs drawn up and groaning in pain.

The pulse and temperature were normal. She was sore in the region of the pain, which I told her I thought was in the uterus, but apart from the pain and the soreness, there seemed to be nothing wrong with her—certainly no malady of an inflammatory character. Upon inquiring after the menstrual function, she told me that she had menstruated last the latter part of February or the first of March, she did not remember which. I then examined the breasts and found them showing evidences of pregnancy. She also told me, upon inquiry, that she had been having recently some morning sickness, which was not, however, well marked.

The patient had been pregnant once before, and had given birth to a still-born foetus on the 19th of April, 1892, the pregnancy having advanced to the end of the seventh month. I told her that she was probably pregnant, and was likely to miscarry. I gave her morphia by the hypodermic syringe till she was relieved of pain.

The next day, May 2d, I saw her and found her free from pain, but very sore in the region of the uterus. I saw her again on the 3d and 4th of May, on which latter day, though still sore in the lower hypogastric region, she was well enough to be out of bed. I saw nothing more of the patient till the 17th day of May,

she having in the meantime gone to Richmond, Va., and returned.

On May 17th, she sent for me again, when I found her suffering with pain in the same region and of the same character as formerly. I then made a digital examination for the first time, and told her, as the result of it, that I thought or suspected that she had an extra-uterine pregnancy. The uterus was pressed forward and elevated slightly by a mass that seemed to be behind and to the left of it, and which seemed to be cystic in character. There had been no discharge from the uterus, and there never was any at any time subsequently. I gave her morphia again hypodermically, and the pain was relieved.

I did not go to see her again till the 25th May, when I found her with the same pain in the same place and with the history of having been very sore ever since the attack of pain on the 17th May. Between the 17th May and the 25th May, the patient was at my office several times, and complained of being all out of order from some pain and considerable soreness all the while. On the 25th May I made a digital examination again, and found the uterus more elevated and pushed forward, the cervix softer, and the growth of cystic character larger and more distinctly felt in the pouch of Douglas. The growing mass seemed also more distinctly posterior to the uterus. From that time on the patient suffered almost constant pain, and was very sore all the while. I urged her to have an operation, which she declined. An examination by the rectum revealed fluctuation in the growth distinctly, and it was not long before the same could be detected by the finger in the vagina.

I continued to worry on with the case, using morphia hypodermically and urging an operation till about the 19th June, when I put the woman under the influence of ether and introduced an exploring needle into the cystic mass from the vagina, now very distinct behind the uterus, and which shoved the posterior vaginal wall downwards. I did this preparatory to making an incision into the mass at that point. We were surprised to have only blood flow out freely through the groove in the needle. I gave it as my opinion that the needle had penetrated the placenta. I did not make the proposed incision.

On the 23d June, the patient told me, after having been urged more than a dozen times to be operated on for the removal of the enlarging cystic mass which I thought was an extra-uterine pregnancy, to go on and do what I thought ought to be done for her relief.

On the 27th day of June, I made the abdominal section, assisted by Drs. Geo. M. Preston, Rawley W. Martin, and A. I. Clark. As soon as the abdominal cavity was reached, blood commenced to flow from the cavity, which I thought was due to the handling in providing asepsis of the abdominal wall. It continued to flow out of the incision throughout the operation. The first thing I encountered was a large, very dark and very hard blood clot, which was very closely adherent to the omentum. I passed two fingers into the abdominal cavity and came upon the cystic mass in Douglas' pouch, which was attached to the right broad ligament and the rectum, but not to the uterus, which was lifted high up and presented itself so much in the abdominal incision as to be much in the way during the operation. In making the incision, I inadvertently nicked the uterus and had to use two sutures of silk to close the incision. The uterus was enlarged to about the size of pregnancy at the end of the third month.

Finding it impossible to bring the cystic mass to the incision in the abdominal wall, I broke through its wall at the thinnest point with my fingers, and there was quite a gush of fluid from the abdominal cavity, which seemed to be amniotic fluid mixed with blood. At once the finger felt the foetus for the first time, and I at once enlarged the opening into the sac with my fingers and drew the foetus out through the abdominal incision. It breathed, or tried to do so, a time or two, struggled a little, and died. I tied the cord, which was quite short, and severed it. I then began to separate the placenta, which was difficult and tedious. I had to remove it in pieces. It was especially difficult to get that part away which was attached to the rectum.

At this stage the anæsthetist, Dr. Clark, hurried me repeatedly, telling me that the woman was in a bad way, and indeed, a glance at her face showed that was too true. Blood flowed from the abdominal cavity during the entire operation, though not very freely at any time. The patient was known to have an organic affection of the mitral valve. I removed all the placenta that I could easily detect, also the blood-clot attached to the omentum, and after having washed out the abdominal cavity with a large quantity of warm water, sterile, and introduced a hæmostatic tamponade of iodoform gauze, with a large rubber drainage tube in the centre of the same, I hurriedly closed the abdominal incision by mass sutures of silk wormgut, which included the peritoneum. The patient rallied promptly from the anæsthetic,

and did not suffer much from shock, though she was put to bed with a pulse of 128 or 130.

She suffered much pain for twenty-four hours or more, and there was quite a free discharge of blood from the drain for twelve or fifteen hours, after which time it was but slight. The gauze drain and tube were removed after forty-eight hours, and the two sutures, left untied where the drain emerged, were tied. The right Fallopian tube was found ruptured at about its middle, the rupture being plainly visible. This tube, together with its ovary, was removed. The sutures were removed on the 7th July.

About the time the sutures were removed, or shortly afterwards, the patient began to have a fever that rose in the afternoon and was lower in the morning. With this fever she had headache, a red and coated tongue; she lost her appetite, which, up to this time, had been very good, and suffered much pain in the hips and back. I gave her an antipyretic remedy, kept her on a milk diet, and occasionally gave her an opiate, which was necessary also to restrain the bowels, which were rather loose during the fever state. The collection of symptoms resembled typhoid fever very much.

But on the 14th July, the abdominal wall where the incision had been made, was observed to be raised up by a fluid accumulation, and a soft spot was noticed where one of the two sutures was tied after the drain was removed. The next day this soft spot ruptured and a quantity of pus, together with several pieces of placenta, were discharged. A drainage tube of rubber was passed into the opening and went downwards and to the right to the extent of four inches or more, to the point from which I removed most of the placenta. The tube drain was left in several days, and then a strip of iodoform gauze was substituted and changed every twenty-four hours. There was a good deal of bad smell to the discharge, but no washing out of the abscess cavity or sinus was ever done. By degrees the discharge lessened, several more pieces of placenta were discharged, the sinus contracted, and the gauze strip drain was omitted, until at the present time the discharge is scarcely anything, and the woman is on the streets of this place every day. The fever, it is needless to say, very soon disappeared on providing good drainage for the abscess, the appetite returned, and the pain soon passed away.

The pregnancy, it is evident, occurred at the middle of the right Fallopian tube. The tube ruptured and let the product of conception out into the abdominal cavity. There it attached

itself and went on developing. It was an intra-peritoneal, extra-uterine pregnancy, and at the time of the operation was advanced to about the end of the fourth month. The fœtus was well developed in every respect, and was a female. After the operation there was a bloody discharge from the uterus, which would last two or three days, disappear, and reappear after several days. This went on for two or three weeks. A recent digital examination ascertained that the uterus is in its proper position, and is of the normal size.

In conclusion, it is necessary to say that this woman had suffered at one time (a year or more prior to the time she came under my notice) very much pain in the region of both ovaries and tubes. The right ovary, which I removed, was hard to find, being entirely concealed by adhesions overlying it. The left ovary and tube were not looked after at all, owing to the bad state of the patient and the length and tediousness of the operation.

FOREIGN BODIES IN THE EYE.*

By HARRY L. MYERS, M. D., Norfolk, Va.

My subject was not selected with the aspiration of presenting any new phase in the management of these accidents, but with the intention of bringing before you a subject of practical interest, and to ask your co-operation in condemning the loose and unscientific management of these most important cases, which, I regret to say, is but too frequent among some members of the profession to-day.

To those less familiar with the subject, I hope to be able to impart some useful hints, and to this purpose I have thought it best to consider my subject under the following divisions: (1) Foreign bodies upon the ball or within the substance, though not entirely perforating its coat; (2) Foreign bodies in the interior of ball.

The violence of the irritation attendant upon the lodgment of a foreign body under the lids depends upon the nature of the substance, whether chemical or mechanical, the contour, and the position which the body assumes on or after coming in contact with the eye. Subjectively, we can often judge very little of its size, as the violence of the symptoms is often disproportionate to the size of the body—indeed, so small is the object many times that it is scarcely or not at all visible to the naked

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eye of the observer. Thus, not a few patients have been dismissed with the assurance that the eye is free of any foreign substance, and, continuing to suffer from the mechanical irritation—or, worse yet, by the resulting inflammation—have sought another physician who, by the use of the proper technique, was enabled to locate and remove the offending substance, greatly to the patient's comfort and equally to his disgust of the skill of the physician who failed to find what seemed to him to be of sufficient size to be visible at ten feet.

Substances like grains of sand, cinders, particles of dust, etc., generally give rise to very little discomfort if they remain fixed in the upper or lower cul-de-sac of the lids. It is only when they become loosened from these positions, and are dragged across the exquisitely sensitive surface of the cornea, or become fixed in its surface, that they give rise to excessive pain, accompanied by lachrymation and shortly by more or less severe inflammation. In case the body is smooth and rounded in contour, it is often so little noticed that it remains in the cul-de-sac unmolested until it has in many cases become encysted. Many such cases are recorded, and sometimes very peculiar substances thus encysted remain quiescent for years, and then set up an inflammation which brought about an investigation and their removal.

That the most common foreign bodies, which give rise to no more than ordinary symptoms, are frequently regarded by the profession in general as too trivial accidents to demand more than the most casual attention is the experience of every oculist; and, unclassical as my paper may be, if it succeeds in impressing the importance of a closer attention to details in the seemingly trivial cases of this nature, it will have been worthy of merit.

If the momentum of the body on striking the eye be sufficient to cause it to be buried in the substance of the cornea, or if it is heated, or because of its chemical nature it becomes adherent to or alters the nature of the tissue of the cornea, we have a condition of affairs that, however slight the symptoms appear, carries with it the danger of doing serious, if not irreparable, damage to the eye.

Not underestimating the effect upon the sight of the traumatic action of a flying foreign body which might abrade the surface to the extent of producing an incurable opacity, we know that there is frequently a far more dangerous element to be considered than mere trauma—that of infection. This is the element of danger above all others upon which

we must concentrate our attention, an element which, if controlled, would render the majority of these accidents of far less importance and permit of much less attention to the details of treatment.

The most common foreign bodies which come to us are bits of cinder, steel, emery, etc.; these being hot, burn their way into the protecting membrane of the cornea, and often penetrate deeply the substance, oxidizing and destroying the tissue in their wake. They thus produce a wound which, aside from its mechanically injurious nature, is also an exceedingly good field for infection; in other words, in these cases the infection is probably indirectly produced.

Besides the hot bodies which are more likely to be aseptic in themselves, there is another class which carries the infection directly, and is capable of producing an infected ulcer which may resist the most careful treatment, and thus not only endanger one eye, but both.

Chemical substances entering the eye act by corroding the tissues, and unfortunately we seldom see these cases until the damage is done; but even then much may be accomplished by proper cleansing and the maintenance of strict asepsis. Lime should be removed with oil instead of water, and it might be well, in case of acids, to combine some neutralizer to the watery solution used in cleansing. The caustic alkalis should be removed with milk instead of water. If two opposing surfaces between the lids have been burned, there is danger of symblepharon, and, besides keeping the insides of the lids well lubricated with an oily substance, the lids should be frequently pulled apart by the fingers to prevent the surfaces from adhering.

In concluding the first section of my paper, I will mention briefly my own method of dealing with these cases, other than those due to chemical causes which have been before mentioned, hoping that, to those less familiar with the technique, I may be able to impart some useful hints.

In the first place, we cannot condemn too strongly the dirty practice of picking pieces of steel, etc., from the cornea with a dirty toothpick, needle, or pen-knife, which practice is common among factory employees, and, I am sorry to say, is not altogether unknown among some of the profession. I venture the assertion that there isn't an oculist present who hasn't been confronted with the worst cases of infected ulcers from this filthy practice in the hands of some careless person.

A good method of examining an eye sup-

posed to contain a foreign body is as follows: The patient is seated in a comfortable chair, with head-rest, by a table upon which is a lamp with a good flame. He doesn't face the light, but sits with the corresponding side of his face to the light upon which the affected eye is. The lower and upper lids are successively everted and a careful search is made for any loose body; if any is found, it can be easily removed with a pledget of cotton held loosely in the hand, the pledget having been previously dampened in a mild solution of bichloride. The lids having been restored to their natural position, the cornea is next examined for any small particles which might be adherent to it. This can only be done properly by concentrating the ray of light from the lamp transversely across the surface of the cornea by means of an ordinary magnifying glass held at its focal distance from the eye. Added to this, much assistance can be gained by placing to the observer's eye an ordinary watchmaker's magnifying glass. The patient pulls down the lower lid, the observer using the unoccupied hand for the upper. Having located the body on or in the tissues of the cornea, the next step is to direct the patient to close the lids, when the outer surfaces are thoroughly cleansed with a weak solution of bichloride, after which a few drops of a 10 per cent. solution cocaine muriate are dropped in the lower cul-de-sac. After a few minutes have elapsed sufficient to allow the cocaine to take effect, the eye is douched out with a saturated solution of boric acid, and a few more drops of cocaine instilled.

In the absence of an assistant, the patient is now required to pull apart both lids and directed to fix and maintain his gaze on some point selected by the surgeon. The lens then is held in one hand, concentrating the ray on the body, and with the other hand the surgeon gently picks away the foreign body by means of a thoroughly aseptic instrument, which, for additional safety, has been dipped in a bichloride solution of one to two thousand immediately before it is used.

After the body is removed, the surface upon which it has rested should be gently curetted so as to remove any possible source of infection. This latter procedure is particularly necessary where the foreign body has been hot—if iron, the thin layer of brown iron rust, which always lies under and around the body, should be entirely removed by the curette.

The eye is again washed out with a saturated solution of boric acid, and the patient directed to apply cold applications to the closed lids for

several hours. If the abraded surface is at all large, a bandage should be worn for twenty-four hours.

In this manner, almost without exception, further trouble is prevented.

The thorough consideration of the subject of foreign bodies in the interior of the eye as a result of trauma is manifestly impossible in an article of this kind, and I speak of them very briefly. When a foreign body has penetrated within the enclosing coats of the eye ball, we are brought face to face with one of the most serious accidents in surgery. It is the rule rather than the exception that such eyes are lost, unless the foreign body can be removed. This is especially true if the point of entrance is situated in what is known as the "dangerous zone," an area extending one quarter of an inch backward around the entire circumference of the cornea. That wounds in this area are more dangerous is due to the fact that the ciliary body underlies this zone, and, on account of its structure and function, a wound in this region will most likely produce an inflammation, which is kept active by the almost ceaseless action of the ciliary muscle during accommodation. The constant irritation from the dragging of the wound by the ciliary muscle quickly produces irido-cyclitis, and when this becomes thoroughly established, not only is the injured eye in danger of destruction, but also the uninjured one by sympathetic involvement. A penetrating injury of the eye is of such grave significance that its treatment should be placed in the hands of an expert surgeon as soon as possible. As this isn't always possible at once, I shall speak very briefly of what should be done until special skill can be obtained. The main thing to be observed here, as in the first class of cases, is prevention of infection. It is even more necessary to be particular in this class than the first. After washing the closed lids very carefully in soap and water, and then in a bichloride solution, the eye should be carefully examined to locate the wound. If there is a prolapse of vitreous in the mouth of the wound, or a prolapse of iris through the cornea, these should be gently removed with aseptic scissors, under proper antiseptic precautions, as mentioned above. A wound through the sclera, from which vitreous is escaping, should be united with sutures put through the conjunctiva overlying it, or, if the wound is very large, through the sclera itself. And let me again emphasize the necessity of the strictest cleanliness here, as the vitreous humor is one of the best cultivating mediums for infectious germs that we

know of. If the foreign body has penetrated the anterior chamber and wounded the lens, traumatic cataract will be produced, and must be carefully watched; and if the lens is much wounded, it would be better to remove it at the same time as the opening of the anterior chamber to remove the foreign body.

Pieces of steel in the eye can sometimes be removed by means of the electro magnet. I note with much pleasure that Dr. Joseph A. White has several such cases to report, hence I leave the description of this procedure to more worthy hands than mine.

After all has been done in the effort to remove the body, whether successful or not, the eye should be washed out with a saturated solution of boric acid, a few drops of a one per cent. solution of atropia instilled, and cold applications applied until the inflammation either subsides or shows evidence of plastic iridocyclitis, when the eye should be at once enucleated to prevent the occurrence of sympathetic ophthalmia in its fellow.

151 Granby Street.

DIAGNOSIS OF BULLET WOUNDS OF THE ABDOMEN.*

By HUGH M. TAYLOR, M. D. Richmond, Va.,

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The surgeon's interest in gun-shot wounds of the abdomen is largely focussed, first, in the *diagnosis*; and, second, in the *treatment*.

The diagnosis involves a differentiation between (a) non penetrating, and penetrating wounds of the abdomen; (b) between penetrating wounds with and those without visceral lesion, (c) between lesion of hollow and solid viscera.

DIAGNOSIS OF PENETRATING FROM NON-PENETRATING.

Are we able with any degree of certainty to differentiate between the penetrating and non-penetrating gun-shot wounds of the abdomen? In the absence of the rare evidence furnished by protrusion of the abdominal viscera or contents, we can only ascertain positively the existence or non-existence of penetration by a careful dissection along the tubular wound tract through the abdominal wall. This conclusion not only accords with our own limited experience but is in keeping with the progressive surgical thought of the day.

The Use of the Probe.—With few exceptions, the use of the probe to ascertain the extent of the wound in the abdominal wall is discouraged. Not until the probe has been sterilized, and not until the wound tract has been aseptically, can we, without danger of increasing infection, resort to probing such a wound. The truism of Nussbaum, that "the fate of the wounded rests in the hands of the surgeon who applies the first dressing," should, we think, be persistently impressed, and the equally imperative injunction, never to probe a wound of any character, and especially one of the abdomen, until probe, wound, and surgeon have been aseptically, are surgical truths which we cannot reiterate too often.

The finger has been poetically styled a probe with an eye in it. We would urge that the finger needs to be especially well sterilized before it is used to explore a wound. Apart from the potency of evil, the use of the probe and finger as diagnostic means are very unreliable. Movements of skin, muscular planes and fasciæ render it difficult to guide probe or finger along the tubular bullet tract, and the loosely attached peritoneum may be pushed inward by either probe or finger, giving the impression that the peritoneal cavity has been entered.

Circumstantial evidence is elicited by examining the character of the wound of entrance, and ascertaining a knowledge as to the distance and direction travelled by the bullet. The larger the bullet, obviously the larger the wound of entrance. The longer the distance, and the greater number of clothes, etc., encountered, the less the penetrating power.

Close discharge may be surmised from powder marks around the wound; equal staining and clean cut indicates that the bullet entered at right angles to the surface; unequal staining and irregularity of the edges of the wound of entrance implies oblique entrance, and possibly no penetration of the abdominal cavity. This last effect is even more strongly suggested when we have a "long abraded or bruised tract of surface leading up to the perforation." This last conclusion is urged by Greig Smith in his work on *Abdominal Surgery*, and he adds in this connection that "the tortuous wound canal can rarely be followed by a probe without risk of the formation of false passages, and the evidence deduced from probing is always liable to misinterpretation." Dr. Senn, in a recent paper, also takes the same view as to the dangers and uselessness of probing such wounds.

Are there any other means by which we may ascertain the penetration or non-penetration of

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the abdominal cavity? We cannot agree with Greig Smith, who thinks evidence may be furnished by injecting hydrogen gas into the wound tract as advised by Senn—the idea being that, if the peritoneal cavity is penetrated, the gas will pass on into that cavity and distend it. We repeat, we can only ascertain the extent of the wound by laying open the bullet tract to its terminus, and there seems to be but little if any doubt as to the propriety of such a step in all instances.

DIFFERENTIAL DIAGNOSIS BETWEEN PENETRATING WOUNDS WITH AND WITHOUT VISCERAL LESION.

Having ascertained by a careful dissection along the wound tract that the peritoneal cavity has been penetrated, we are next called upon to ascertain the presence or absence of visceral lesion. This is a matter of greatest importance, and the symptoms to be of value must be manifested early.

Can we make the differential diagnosis in any other way than by celiotomy and a thorough examination of the abdominal contents? Are we justified in all instances on finding a perforation of the abdomen, and, in the absence of symptoms of visceral lesion, in opening up the abdomen to examine its contents? We agree with a majority of surgeons in thinking that an exploration is called for in all cases, because of the fact that we know of no symptom or chain of symptoms by which we can discover, beyond all question, the extent of the intra-peritoneal injury.

Shock.—Does the presence or absence of shock indicate the presence or absence of visceral lesion? A simple contusion of the abdominal wall may be attended by profound shock; a penetrating wound, with multiple visceral wounds, may exist with little or no appreciable shock; this is a clinical fact so well known that we need hardly mention it. The presence or absence of shock is in no way significant; but the *behavior of shock* in many instances is, we think, a guide of signal importance. We cannot illustrate our views upon this point better than by referring to the manifestations in a case recently seen, in which we think it was demonstrated that the time of onset of shock, syncope, or collapse (we use the terms synonymously) is a guide to be depended upon.

The wounded man, a station agent, after being shot, walked into his office, telegraphed to Richmond for assistance, and then walked several hundred yards to his boarding-house. This history is only interesting in that it shows actions inconsistent with the existence of pro-

found shock. The wound of entrance was in the epigastric region near the median line; a downward direction was inferred, as the pistol was fired from the top of a coal car while the wounded man was standing on the ground. When seen an hour after the injury, in spite of considerable suffering and the fatigue incident to traveling to Richmond, there was no appreciable shock. His morale was good, his temperature was normal, his skin was dry, and his pulse was strong, slow and regular. He vomited once soon after being seen, but there was no blood in the vomited matter. About three hours were consumed in getting the patient to the hospital and in preparing patient, operating-room, etc., for an aseptic celiotomy. In that time, in spite of the administration of strychnia and morphia hypodermically and saline solution and whiskey per rectum, the patient had progressively lapsed into a condition of collapse.

Guided by the clinical picture thus presented, we were satisfied prior to an exploratory incision that there was penetration, with visceral lesion and intra-abdominal bleeding. It was inferred that hemorrhage from a wounded intercostal artery or the internal mammary would have been evinced by significant external bleeding. A section of the wound tract revealed penetration of the peritoneal cavity, and celiotomy disclosed profuse bleeding to have occurred from a perforation through the free border of the stomach, near its cardiac extremity, and also a perforation of the left lobe of the liver, about an inch and a half from its free margin. Neither wound was bleeding at this time; shock—nature's beneficent hæmostatic—had come to the rescue. Several pints of blood, mixed with fluid contents of the stomach, were removed from the peritoneal cavity, the stomach wound sutured, the liver wound packed, and the patient made an uneventful recovery.

We recall another case of pistol wound with penetration of the abdomen and perforation of the liver, in which we were able to infer a visceral lesion by the time of onset of shock. This man, a police officer, was shot while trying to make an arrest. Hardly conscious of being shot, he chased his assailant several hundred yards, and then walked half a mile to his home. For an hour or more, there was but little shock. By the time we had removed him to a hospital, and were prepared to do an aseptic section (several hours), he was collapsed.

In both of these cases the wound of entrance was above the umbilicus; in both we had to recall the fact that there is a much greater

likelihood of no visceral lesion from a wound above the umbilicus. In both instances the bullet's course was from above downward, perforating in one case, and lodging in the other near the crest of the ilium. By the absence of primary shock, and the appearance, in a few hours, of profound shock, we were able to diagnose penetration with visceral lesion.

Shock from a penetrating wound of the abdomen, without visceral lesion, if it occurs at all, will be instantly manifested, reach its acme at once, and pass away, under appropriate treatment, in the usual time. On the other hand, shock followed by reaction and renewed shock points to shock of injury from which the patient reacts, and this reaction is followed by shock of hemorrhage or that incident to extravasation of hollow visceral contents.

During the continuance of the shock of injury bleeding is held in abeyance. With the passing off of the shock of trauma reactionary hemorrhage ensues, and with it we have the shock of hemorrhage or acute anæmia. Hence, in abdominal wounds shock, with reaction and succeeding shock, points to intra-abdominal bleeding from visceral lesion. Delayed shock, as illustrated in the cases we have reported, points significantly to intra-abdominal bleeding, and of course to visceral lesion. Delayed syncope or shock points to intra-abdominal bleeding from small vessels; in this instance time is necessary for reactionary hemorrhage, and sufficient bleeding from small vessels to induce renewed shock or late shock. A wound of a large vessel, like the aorta, iliac, renal or hepatic, would be attended by immediate collapse and death.

Of course the shock of hemorrhage may ensue so rapidly as to be merged into the shock of injury, but we think in a majority of instances valuable information will be afforded, especially as regards wounds of the solid viscera, by the intelligent observation of the symptoms as they are manifested. Shock delayed for ten or twelve hours will usually point to hollow visceral lesion with escape of contents and the advent of septic peritonitis.

Pain.—Observation and study has led us to attach but little significance to the presence or absence of pain as distinguishing between the different types of abdominal wounds. By a majority of writers it is held that we may have perforation with multiple lesions and but little pain, while a wound limited to the abdominal walls may be excessively painful. In this connection I must quote from one who has had an experience with fifty cases. I allude to Dr.

W. E. Parker, of New Orleans. "Although most writers tell us that pain is in no way characteristic of these cases, the most constant symptom that we have observed has been pain referred to the umbilicus." He affirms that he has "never seen a case of penetrating gunshot wound of the abdomen in which this symptom was absent."

I recall the fact that Dr. Hunter McGuire, in a paper read before the American Medical Association twenty-five years ago, spoke of the pain as acute, colicky, and resembling a green-apple bellyache. This paper was one of the pioneer papers in which early operative interference was urged.

Vomiting.—A majority of writers fail to find in the presence or absence of vomited blood a guide. Not infrequently when there is a wound of the stomach no blood is found in the vomited or explored contents of the stomach. In the case we have reported, although there was a perforation of the stomach and free hemorrhage into the peritoneal cavity, there was no blood in the stomach contents vomited in our presence. Stomach and intestinal contents pouring out into the peritoneal cavity is much more likely to carry the blood also into the peritoneal cavity. Protrusion of the mucosa into the wound also helps to block the entrance of blood into the lumen of the wounded viscus.

In this connection we may mention that Greig Smith says, "One of the most important symptoms is a feeling of nausea, frequently accompanied with vomiting." We cannot agree with Mr. Smith when he says, "This is not common in false shock." We think both nausea and vomiting are equally common in traumatic and physical shock. Certainly vomiting *per se* is no guide, and even the presence of blood in the vomited contents is not conclusive of penetration of the stomach, since not infrequently a simple contusion of the stomach wall may result in hemorrhage into the cavity of the stomach.

Air Escaping from or Diffused in the Cellular tissue surrounding the Wound Tract is no longer considered a guide, as it may have found its way in through the wound of entrance or be gas from putrefactive changes.

Prolapse of Viscera or their Contents, is an exceptional occurrence, notably so in the small jacketed bullet-wounds from high-power guns.

Blood in Feces.—We cannot wait for the evidence incident to blood in the feces, and even if its presence was noted we would not know that it did not come from a contusion of the intestinal tract and not necessarily a perforation.

Blood in the Urine, while strongly suggestive,

is not confirmatory of a perforation of the genito-urinary tract. A perforation of the peritoneal wall of the bladder may be ascertained by drawing off the urine and then injecting a measured quantity of aseptic fluid into the empty bladder. If the bladder readily distends, and if in a short time as much of the fluid is withdrawn as was put in the bladder, the inference is strong that there is no perforation of the bladder. This evidence of course does not preclude a possible lesion of the ureter or pelvis of the kidney.

Gastro-Intestinal Tract.—The most important intra-abdominal wounds to diagnose early are those involving the gastro-intestinal tract. We have seen that shock pain, vomiting, etc., do not furnish evidence at all conclusive. It is held that we may with almost certainty expect multiple bowel perforation if the abdominal cavity is penetrated below the umbilicus, while the outlook is better if the wound of entrance is above the umbilicus. We think such a wound without visceral lesion must be so rare it is a pity it ever occurs, as it inclines not a few to wait for urgent symptoms before resorting to operative interference.

Before considering the diagnostic means of, perhaps, the greatest importance, let us look at the probable evidence afforded by *escape of intestinal gas into the peritoneal cavity and inducing hepatic resonance* in place of normal liver dullness. Theoretically, an escape of gas from the intestines into the peritoneal cavity and the insinuation of this gas between the lower ribs and the convex surface of the liver, should furnish reliable information, but it depends upon a sufficient escape of gas, an absence of adhesions between the liver and parietal peritoneum of the chest wall, and diagnostic acumen sufficient to detect the gas. A majority of writers allude to this diagnostic means, but as far as we have been able to ascertain, but few rely upon it. To be of service, it must be manifested early, as intestinal paresis from sepsis will very quickly cause distensions of the intestines and efface liver dullness.

Senn's Hydrogen Gas Test.—Many years ago, Dr. Senn brought to the attention of the profession this means of diagnosing perforation of the gastro-intestinal tract, and its technique is well known. We do not think this diagnostic means has been as well accepted by the profession as it merits. A majority of writers do not write encouragingly about it. Dr. Senn has, however, never lost confidence in it as a means of diagnosing an intestinal perforation. He has, upon every occasion, urged its use; thinks by this means we may avoid an explo-

ratory incision and evisceration for diagnostic purposes. The objections to this use of hydrogen gas or filtered air, do not appear to me to be logical. It has been claimed that the gas is rarely available when needed; that the paraphernalia—*i. e.*, the rubber bag from which and by which we are to drive the gas or air into the intestines, under pressure and under an anesthetic—is not often conveniently at hand. This is no fault of the method.

If we can accomplish, by means of *rectal insufflation*, what Dr. Senn has accomplished, it is the duty of the surgeon to provide the needed apparatus. In sixteen cases of gunshot wounds of the abdomen, Dr. Senn was able to find no lesion in two, and, of course, no need for an exploratory incision.

The objection to this practice, so often urged, that distention of the bowels makes it more difficult to replace them if a section is made, is not sufficient. By rectal insufflation only can we ascertain, without an exploratory incision, that there is no bowel perforation. Exploratory incision and rectal insufflation are our only guides available soon enough to enable us to do preventive work. The task of returning distended bowels is by no means a serious undertaking; and if it can show no intestinal wound, no section and evisceration will, in the experience of Dr. Senn and Greig Smith, be necessary. For that matter, an opening in the bowel could be made to let the gas out. The surgeon does not fear an intestinal lesion; his fear is that he will not find them all. The mortality is due to not getting at the lesions early and in overlooking one or more. It has been held that leakage of intestinal contents into the peritoneal cavity is ensured by distending the bowels. I do not believe that a wound of the small bowel will ever occur without leakage of its ever-fluid contents. I think it a pity that the idea should ever be held that leakage may not occur, as it encourages a supposed conservatism almost inevitably fatal. The mission of insufflating the intestines with gas or air, is to ascertain prior to an exploratory incision the existence of an intestinal lesion. If it will accomplish this, we are not excusable for not using it because of the trouble, etc., incident to its use. Its second mission is to ascertain the location of the lesions after the abdomen has been opened, and by this means avoid evisceration and handling. This second mission, it seems to me, to be of minor importance as compared to the first.

Solid Visceral Wounds.—Can we differentiate between wounds involving the solid visceral

from wounds limited to hollow viscera? We do not think this possible with any degree of accuracy. Nor do we deem it essential, as in a majority of instances, in both classes of wounds, operative interference is indicated. We should recall that multiple wounds are the rule, and that both solid and hollow visceral wounds commonly coexist. The symptoms and dangers incident to solid visceral wounds are due to hemorrhage. Recalling the fact that the symptoms of hemorrhage (usually parenchymatous), are not manifested immediately, and are progressive, we can sometimes quite accurately diagnose intra-abdominal bleeding; but there may also coexist multiple hollow visceral perforations without significant symptoms of perforation until the advent of septic peritonitis. Unless we can eliminate intestinal or vesical perforation by distending those organs, we cannot eliminate perforation except by a celiotomy.

Blood in the Abdominal Cavity.—Dulness on percussion in the right and left colic regions, varying areas of dulness with changed position of the patient, and fulness in the cul-de-sac, may afford evidence of intra-abdominal bleeding. But in estimating such evidence, we must eliminate distension of colon, etc., from fecal matter; and we should further regard the fact that extensive bleeding must have occurred before its presence can be appreciated.

Ideal surgery contemplates operative interference to prevent the disastrous consequences of profuse bleeding and acute anemia.

Briefly, we would urge:

I. That an X ray examination locating the bullet in the abdominal wall is the only contingent which warrants us in not laying open the tubular bullet tract down to the peritoneum to ascertain if the cavity has been penetrated.

II. That we are justified, if ever, in non-operative interference only in the event of Senn's hydrogen gas test affords evidence that there is no hollow visceral lesion, and the absence of symptoms of hemorrhage leads us to suppose there is no solid visceral lesion.

III. That until our means of differential diagnosis is very markedly advanced, the safe and conservative course in all penetrating wounds of the abdomen, is to open the abdomen early, and do thorough and quick intra-abdominal work.

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said he thought the paper just read was the best he had heard on the subject in many years, considering the short period of time allowed for its delivery. In his opinion, the author is entirely correct in the procedure he adopts when there is reason to believe there has been a penetration of the abdominal cavity. He cannot agree with the views expressed by Dr. Senn regarding the abdominal wounds of soldiers about Santiago.

DR. R. I. HICKS, Warrenton, Va., says he has known many pistol shot wounds of the abdomen to do no harm, the bullets usually becoming encysted. It is highly probable that the kind and size of bullet may have something to do with the result.

DR. TAYLOR, in closing the discussion, had nothing else to say.

DO BACTERIA PRODUCE DISEASE?*

By E. C. LEVY, M. D., Richmond, Va.,

Professor of Histology, Pathology and Bacteriology, Medical College of Virginia; Pathologist and Bacteriologist to the Old Dominion Hospital.

At the last meeting of this Society, I had the honor of reading a paper on the subject of bacteriologic diagnosis. While the reception tendered my humble efforts was in the main highly gratifying, yet I must confess I was much taken aback to find some members of this Society disposed to doubt even the causal relation of bacteria to disease. Unless this relation be admitted, bacteriology, while still to be regarded as a most fascinating study, can of course present no special claims as a science of vital interest to our profession, and proficiency in its teachings on the part of physicians must be looked upon merely as a desirable, but by no means a necessary, accomplishment.

For this reason, I have thought it not unfitting to ask your indulgence in listening to a much hackneyed subject, in the hope that some of you who are still disposed to doubt the pathogenic powers of man's smallest, yet greatest, enemies may be led, if not at once to renounce the articles of faith to which you have so steadfastly adhered, at least to give the subject a more careful consideration, and, with that spirit of fairness which should ever characterize the scientific physician, to weigh the evidence anew. I doubt not you will then see your way clear to falling in with the rank and

DISCUSSION.

DR. J. WESLEY BOVEE, Washington, D. C.,

* Read before the Medical Society of Virginia at its Twenty-ninth Annual Session, Virginia Beach, August 30, 31 and September 1, 1898.

file of those who regard the lessons learned from the science of bacteriology as among the greatest ever taught our profession—a fitting capstone to the monument of achievements of the closing years of the nineteenth century.

In presenting this paper, I especially crave the indulgence of those of you in whose minds this question is already finally settled in the affirmative (many of whom would doubtless prove far more able champions of the cause than I), hoping that, in return for your patience, you may gather from the discussion some points which will still further justify the faith that is in you.

In Hindu cosmogony, the world was said to rest upon the head of a snake, which, in turn, was held upon the back of a tortoise, but it was thought unnecessary to provide a foothold for this animated base. The origin of disease has always presented to the medical mind a problem as fundamental, yet seemingly as elusive, as that encountered by theology in accounting for the origin of the universe. Now that we believe we have shifted a large part of this burden upon the back of the humblest type of life, the micro organisms, let us see if we are prepared to treat them better than the fabled tortoise, and to furnish them with the foothold to which, in spite of their microscopic size, they are entitled. Our structure is as unstable as that of the ancient Brahmin, unless we can show that its foundation rests upon a more solid base than ingenious speculation and unproved theories.

The first fact to be noted is that infectious diseases present certain phenomena which almost irresistibly suggest the idea that the infectious material must be some form of life. Chief among these phenomena are the existence of an incubative period and the power of the infection to be carried, without loss of intensity of action, through an infinite series of individuals.

That several days, or even weeks, should elapse from the time of exposure to a contagious case and the appearance of the first prodromal symptoms (during which period the individual is apparently in perfect health), irresistibly leads to the conclusion that during this time there is a development of the toxic agent up to the point where its effects are manifested—a numerical increase which, so far as all precedent goes, can be attributed only to living matter with power of reproduction.

To illustrate the second of these suggestive points: A is exposed to a contagious case and contracts the disease. B becomes infected from A, and in turn infects C, and so *ad infinitum*,

each case in the series being as rich in morbid material as was the first. The most powerful abiologic poisons with which we are acquainted exhaust their effects on the individual by whom they are ingested. While we can, of course, conceive that such poisons as arsenic or strychnin might be given in doses sufficiently large not only to kill the individual to whom they are administered, but also to render the ingestion of minute portions of his body capable of producing toxic symptoms in others, still in every such instance the effects so produced would represent the physiologic action of a definite amount of the poison, which amount is merely a fractional part of the original dose. Moreover, no matter how large the original dose, we would soon come to a point where this process could no longer be continued. Hence, in this power of the *materies morbi* of infectious diseases to be carried without loss in amount or intensity through an infinite series of individuals, we see presented a phenomenon explicable only on the hypothesis of its living nature.

Led by observations akin to the above to believe that infectious diseases were due to germs, but failing to detect their actual presence, observers were forced to add to this hypothesis the corollary that such living organisms must be of a size too small to be seen by the unaided eye, thus formulating the theory mentioned by Varro over one hundred years before the Christian era—a theory which remained only an ingenious conjecture, with many points in its favor, but capable of neither proof nor overthrow, for nearly two thousand years.

Not until 1675, when Leeuwenhoek, by means of lenses superior to any in previous use, demonstrated the actual existence of the hypothetical micro organisms of ancient conjecture, was the first step taken toward removing this theory from the domain of pure speculation. His discovery revived the old idea and gave rise to many wild conjectures, crude experiments, and animated discussions, the only practical outcome of which, for nearly two hundred years, was the final deathblow to the theory of spontaneous generation. Nothing was done toward actually demonstrating the causal relation of these micro organisms to disease until Pollender, in 1849, and Davaine, in 1850, observed the bacillus of anthrax in the blood of animals dying from that disease. The last-named observer made public in 1863 the results of inoculation experiments in which, by injecting the blood of an infected animal into a healthy one, he was able to reproduce the disease. His experiments were justly regarded

as not positively conclusive; for it was claimed that in the blood used for inoculation the micro-organisms were associated with other material from the body of the infected animal.

This objection to early inoculation experiments was not finally disposed of until 1881, when Koch, by the introduction of solid culture media and the plate method, made it an easy matter to obtain bacteria in pure cultures and to carry them through any number of generations without contamination, thus leaving no ground for the claim that not the bacteria but some associated material from the infected subject was the active agent. This point may be said to mark the beginning of bacteriology as a science. From this time on, improvements in technic and the consequent rapid strides in knowledge of this microscopic world went on at such a rate that merely to mention the discoveries in this field would lengthen this paper beyond the prescribed limit.

We may now turn aside from mere suggestive data and consider the subject from the standpoint of demonstrable facts. To the laboratory worker the causal relation of bacteria to disease is abundantly proved by the following facts: He finds certain bacteria constantly associated with certain diseases; he is able to obtain these bacteria in pure culture (*i. e.*, he can cause them to grow on artificial media outside of the living body where they are not contaminated by any other bacteria or products of any other vital processes); by injecting, or otherwise introducing into the bodies of animals, bacteria which have been cultivated outside of the living body for many generations, he is able to reproduce the disease with every one of its original manifestations, and from the body of the animal so infected he is again able to cultivate the same bacterium. All of these conditions, the postulates of Koch, being fulfilled (and this is done every day in every laboratory of bacteriology), the conclusion that the bacteria produce the disease is inevitable.

The first of the above points alone, the constant association of certain bacteria with certain diseases, if carried to its logical conclusion, must cause us to believe that bacteria stand in a casual relation to disease. No one to day, whether or not he may believe in the etiologic relation of bacteria to disease, can deny the statement of the bacteriologist that certain micro-organisms are found constantly associated with certain diseases. Unless this be regarded as merely an accidental coincidence—a proposition so opposed to every law of probability that it must be at once dismissed—there are only four thinkable hypotheses upon which

this co existence can be explained: (1) the disease has given origin to the bacteria; (2) the disease has produced a soil favorable for the proliferation of the bacteria; (3) both the disease and the bacteria associated with it are the results of some common cause, or (4) the bacteria have caused the disease.

The first of these hypotheses involve a belief in the theory of spontaneous generation—a theory long since abandoned by every one—and hence the idea that the disease gives origin to the bacteria associated with it cannot be offered in explanation. The second hypotheses (that the disease has produced a soil favorable for the growth of the bacteria) has in it an element of truth, but is untenable as a general proposition for many reasons, prominent among which is the fact that unless we conceive that every species of pathogenic bacteria is everywhere present there is no way in which the seed could be promptly implanted in the soil as soon as this soil is offered by a disease otherwise contracted.

The third hypotheses (that both the disease and the associated bacteria are the results of a common cause) cannot be maintained in the absence of any thinkable cause which could produce such effects, and because this proposition would involve a belief in spontaneous generation.

Thus, by a logical *reductio ad absurdum* from the established fact of the co-existence of certain bacteria and certain diseases, we are forced to believe that the bacteria found are the cause of the disease. When we add to this the fact that we are able to obtain these bacteria from the affected individual, to grow them in pure culture outside of the body through generation after generation, and, finally, that a culture of tenth, twentieth, or hundredth generation will produce the lesions of the original disease in all its details, the conclusion that bacteria cause disease cannot be avoided.

Additional confirmation of the doctrine is found in the immunity conferred against certain diseases by injection of bacterial toxins or attenuated cultures of the bacteria themselves. Similarly, the protective and curative powers of antitoxins (which are indirect products of bacterial life) point in the same direction.

It now remains to consider briefly certain objections sometimes brought forward against the causal relation of bacteria to disease. Some doubters even at this day advance the idea that in laboratory experiments it is not the bacteria, but something associated with them, which produces the disease. As has been pointed out, this objection was not without

reason as applied to the early inoculation experiments of Davaine and others, but as applied to modern methods of employing pure bacterial cultures, many generations removed from the individual from whom they were obtained, this idea is as untenable as it would be to claim that the toxic action of any drug was due not to its inherent properties but to some mysterious associated substance. True, we now know that bacteria exert their disease producing rôle by means of toxins produced by them. These toxins may be isolated from the bacteria, and their exhibition will give rise to the symptoms of the disease, although no living bacteria are injected. There is, however, this point to be remembered: where toxins alone are employed the case is analogous to the injection of any of the abiologic poisons—the effects are produced on the original individual, but there is present no disease which can be conveyed to another. For this latter the presence of living bacteria is essential.

Perhaps the most common argument urged against the disease producing rôle of bacteria is the widespread presence of micro-organisms said to be pathogenic without a corresponding development of cases of the special disease of which they are said to be the cause.

In reply to this argument, no one explanation can be given. Their failure to produce disease is explicable at times in one way, at times in another. In the first place, among every variety of bacteria there exists a wide variation in pathogenic power, oftentimes to such an extent that we find any given form varying from the highest degree of virulence down to a point where pathogenic power is entirely absent; yet, through all these variations in pathogenesis, its morphologic, staining, and cultural peculiarities are preserved. Thus the mere demonstration of the existence in air, water, soil, or elsewhere, of a form of bacterium with a given name, does not necessarily indicate that pathogenic bacteria are present.

Where virulent pathogenic bacteria are found widely distributed, their failure to give rise to universal epidemics is usually to be explained by the varying degrees of susceptibility on the part of individuals brought in contact with them. But few diseases which we attribute to the pathogenic action of bacteria are believed at this day to be due solely to their presence. There must exist conditions favorable for their development, or the germs of disease will be as incapable of proliferation as are the seeds of higher plants if cast on barren soil. But it cannot be claimed that this admission in any wise detracts from the

pathogenic rôle of bacteria. A fertile soil alone will not produce corn or grass or fruit unless their respective seeds be implanted in it, nor can an individual, however favorable the soil, develop tuberculosis or diphtheria or typhoid fever without the entrance into his system of the germs of these diseases.

Again, the failure of disease to follow the actual introduction of pathogenic germs must at times be explained by certain vital peculiarities of the bacteria themselves. The spores of the tetanus bacillus are fairly widely distributed in the soil, but this bacillus is a strict anaërobe, and most wounds into which it is actually introduced do not offer the condition of absolute exclusion of oxygen, which is a *sine qua non* for its development. Similarly, the spirillum of Asiatic cholera may be inhibited in its growth, or actually killed, by the acidity of the gastric juice.

Another objection often urged against the causal relation of some bacteria to disease can best be taken up in connection with the one now under consideration, and in the limits of this paper the two can most easily be illustrated by an example. Bacteriologists assert that lobar pneumonia is usually due to the pneumococcus (*micrococcus lanceolatus*). Against this statement is urged the universal observation that this disease follows exposure to cold and dampness, alcoholic excesses, and certain other causes, and that, moreover, the pneumococcus cannot cause the disease, for the reason that it is found in the mouths of so many healthy individuals. As a matter of fact, either of these objections alone would offer some difficulty in explaining. Taken together, this difficulty disappears. The exposure to cold or the alcoholic excess removes the previously existing resistance to the proliferation of bacteria already present, and the disease develops. In this instance, the bacteria, being already present, may be regarded as a predisposing cause, the exposure to cold, etc., as the exciting cause—a cause which must remain inactive in the absence of the pathogenic organisms. Thus, whenever it is found that any bacterial disease appears commonly to arise from some other cause, we may confidently expect to find the germ of that disease widely distributed, and this very distribution, so far from being an argument against the pathogenic power of the bacteria, is an essential in such instances.

Again, it is urged that it is not always possible to demonstrate the presence of the alleged bacteria in all cases of diseases said to be due to them. Faulty technic is usually back of any such failure, but at times other factors

may be responsible. For instance, in pulmonary tuberculosis the sputum may be examined at a time when few of the tubercles are in a condition where their elements appear in the sputum, or the specimen may not come from the tuberculosis portion of the lung, but from an associated bronchitis. Care in the collection of the sputum, and repeated examinations under proper technic, will scarcely ever fail to demonstrate tubercle bacilli in all cases of phthisis.

I am aware that the foregoing paper has presented but a few of the points bearing on the question which I have selected for discussion, but more was not possible in the limit assigned for papers before this Society.

In conclusion, let me again recall to you the fact that bacteriology has existed as a science for but seventeen years. In no other science have the first years of development been marked by such strides or witnessed the advocacy of so few theories which it has subsequently become necessary to revise or abandon. Much yet remains to be done, but the fundamental fact that bacteria do produce disease is settled for all time in the minds of those who have devoted themselves to the study and learned the lessons daily demonstrated in every laboratory of bacteriology.

Correspondence.

Origin and Definition of the Words "Gabelle," "Tariff," and "Quass," or "Kvass."

Editor of *Virginia Medical Semi-Monthly*:

Referring to the communication of my good and distinguished friend, Dr. E. C. Spitzka, in your issue of August 26th, concerning the lexical standing of two words mentioned in a list not usually found in medical dictionaries, I am unable to say where the use of the word "gabelle" originated. Some years ago, while making the "Index Catalogue of the Library of the Surgeon-General's Office," I ran across the word in a medical book which, treating of the elementary use of salt throughout the world, conveyed to me the information in question. The word not being accessible at this time through any of the numerous dictionaries at my disposal, I placed it on a list as unusual. Since then, however, I find that the term applies to a most odious and inequitable tax on salt in France, originated by Louis IX in 1246, and being condemned by all edicts of reformers, was abolished in 1790. The ety-

mology of the word is given by one authority as Anglo-Saxon, *gafal*, signifying tax, and again from the Arabic *Kabola*.

It is quite possible that in accordance with the law of human speech, the term has become extended by metonymy after the manner of the old piratical tax levied on ships passing Tariffa Point in Spain, which scholars now recognize as the origin of the word *tarif*.

Among writers mentioning "gabelle," are Adam Smith, Gasquet, Necker, Chamagèreau, and Palgrave in his Dictionary of Political Economy. Larousse also gives a cyclopedic account in *Grand Dictionnaire de dix-neuvième Siècle*.

As to "quass" or *kvass*, the necessary national beverage of every Russian household, I am aware that Dr. Spitzka's modified definition, from a chemical point of view, is the more correct as regards Russia; but as a matter of fact, many of the Inuit population of Alaska adopt the method of distillation in making "quass," often resorting to such primitive apparatus as a gun barrel containing a mixture of flour, sugar and water, to which heat is applied. The resulting concoction, being known in common parlance among travelers in the country as "Alaskan whiskey," would seem to be verified in view of the maniacal drunks caused thereby.

It would be interesting to learn from so talented a psychiatrist as Dr. Spitzka, whether he has ever tried a cocktail made from the Alaskan variety, and in describing his psychic condition both before and after taking, to say whether he was elated or depressed, or in a state of euphory. Very truly,

IRVING C. ROSSE, M. D.
Washington, Sept. 10, 1898.

Book Notices.

Medical Diseases of Infancy and Childhood. By DAWSON WILLIAMS, M. D., Lond., F. R. C. P., London; Physician to East London Hospital for Children, Shadwell, etc. Lea Brothers & Co. Philadelphia and New York. Small 8vo. Pp. 634. Cloth.

In explanation of lack of date of this publication, we find that the printing was done in London, and may therefore be considered as cotemporaneous with the English edition. It is a most excellent book—both in description, illustration, and therapeutic suggestion. It goes directly for the subject in hand, and so reads that one can almost see a case of the disease being considered. Among the chapters

which most impressed us are those on diphtheria—in fact, of those on the acute infectious diseases—chronic disorders of the gastro-intestinal system, diseases of the thyroid and thymus glands, etc., portions of chapter on nervous diseases, etc. Several pages of approved recipes are added to the book. The index also is good. These things contribute much to the interest of the book when one wishes to make quick references and to prescribe what experience has approved.

American Text-Book of Genito-Urinary Diseases, Syphilis, and Diseases of the Skin. Edited by L. BOLTON BANGS, M. D., Late Professor of Genito-Urinary and Venereal Diseases, New York Post-Graduate Medical School and Hospital, etc., and W. A. HARDAWAY, A. M., M. D., Professor of Diseases of the Skin and Syphilis, Missouri Medical College, St. Louis, etc. *Illustrated with 300 Engravings, and 20 Full-page Colored Plates.* Philadelphia: W. B. Saunders. 1898. Large 8vo. Pp. 1229. (For sale by subscription: Cloth, \$7; Sheep or Half-Morocco, \$8.)

There is no book more worthy of a place in the library of the general practitioner than this; while to the specialist who keeps up with the best of authors regarding venereal and genito-urinary diseases, it is invaluable. There are no extreme views expressed in the work by any of the writers except such as have the confirmation of experience. The importance of gonorrhoea after the apparent cure of the urethritis is strongly impressed because it is not sufficiently understood by the mass of the profession, who regard its chief sequela to be simply urethral stricture. Syphilis and chancreoid troubles are fully discussed, nearly 500 pages are given to diseases of the skin in all of their details. But in addition to all of this, genito-urinary diseases not necessarily of venereal origin are thoroughly considered from the practitioner's standpoint, including vesical calculus, etc. One of the most useful of the articles in its general applicability to the wants of the practitioner is the one on "urine-analysis and a consideration of the urine in surgical diseases of the urinary tract."

This Text-Book is not the work of one author, but the combined result of forty-seven well-selected American writers. We are pleased to recognize among them the names of Dr. Lewis C. Boshier, of Richmond, Va., whose contribution on "Syphilis of the bones, joints, bursæ, tendons, and muscles" is a most excellent one. Dr. Isadore Dyer, of New Orleans, is the only other author selected from the South—his papers relating to some of the "new growths." All the authors have been carefully selected,

and have proven their special fitness for the tasks assumed.

The plates and cuts are simply superb. The immense amount of illustration throughout the work—wherever needed—removes any doubt as to exact meaning of the text wherever description of condition, operation or instrument is intended. The publisher has done his part magnificently well.

Unlike many of the books of the day, this Text Book is apt to be authority for a lifetime. It is published after the transition stage and debative period relating to the essential qualities of each of the venereals is over, and when most of the practical points are settled. The immense amount of material in this one book—due to the number and size of pages—is such as is usually included in two large volumes, so that the prices stated for this book, in either of the two bindings named in the heading of this notice, are very cheap for a work of this value and this size.

Hand-Book of Materia Medica for Trained Nurses. By JOHN E. GROFF, Ph. G., Apothecary in the Rhode Island Hospital, Providence. Philadelphia: P. Blakiston's Son & Co. 1898. Cloth. 12mo. Pp. 235. \$1.25 net.

The work is intended to acquaint the nurse with the numerous drugs, their Latin and English names, parts of plants used, something about the preparations, chemicals used as medicines, etc. It includes sections on therapeutics and toxicology, and a glossary (about 65 pages), giving a complete list of all the official drugs, the preparations of them, and the chemicals, their Latin and English names, their synonyms, the parts of plants used or origin if a chemical, their medicinal uses and doses. After the chapters on "weights and measures," and the metric system, crude drugs are described, and then their preparations and dosage. The second part of the volume is devoted to chemistry of the drugs, metals, and organic chemistry. The products of fermentation are next studied, followed by a chapter on volatile and fixed oils. Glucosides and alkaloids are conjointly considered. Drugs derived from the animal kingdom are next taken up. After this, comes a description of the thermometer for clinical purposes, and how to convert the figures of the centigrade into the Fahrenheit scale, etc. Short chapters are given on therapeutics and toxicology. It is a first-rate book for the nurse.

Clinical Text-Book of Medical Diagnosis for Physicians and Students By OSWALD VIERORDT, M. D., Professor of Medicine at University of Heidelberg, etc. *Authorized Translations, with Additions*, by FRANCIS H. STUART, A. M., M. D., Member of Medical Society of County of Kings, New York, etc. *Fourth American Edition, from Fifth German, Revised and Enlarged. With 194 Illustrations.* Philadelphia: W. B. Saunders. 1898. Large 8 vo. Pp. 603. Cloth, \$4; Sheep, or half Morocco, \$5; Half Russia, \$5.50. *Net.*

This remarkably valuable work to every doctor is based on the most recent methods of examination. It is a library of medicine in itself, from which facts forgotten are brought afresh to memory, or new ones are presented which make the book a mine of systematized information to guide in the diagnosis of disease. The reader may open the pages anywhere to satisfy himself on these points. But its special value is felt when in doubt—when in need of light. The well-arranged index is a great help for the ready reference desired, and when the page wanted is turned to, then one will get help in suggestion and in facts which enables him to clear from his mind the confusion or doubt into which he may have fallen in a given case. The additions and revisions in this edition make it the book needed by practitioners. The profession generally being familiar with the scope of the work through former editions, it need not detain us to point out the run of its chapters—other than to say that much matter is for the first time introduced in this edition that was not in any former edition. It is also a cheap volume when the neatness of “get up” and fullness of illustration are taken into consideration.

Recherches Cliniques et Therapeutiques sur l'Epilepsie, l'Hysterie et l'Idiotie. Report of Service to Idiotic Children—Epileptics and Imbeciles—in the Bicetre during the year 1897. By BOURNEVILLE, with the assistance of MM. DARDEL, JACOMET, METTAT, J. NOIR, PHILLIPE, RELAY, SCHWARTZ, TISSIER, and WUILLAMIER. Tome XVIII of the Series. Pp. lxxxiv+224. *With 18 Figures in the Text, and 20 Plates.* Published by *Progres Medical.* Fourteen Rue des Carmes. Felix Alcan, Editeur. Boulevard Saint Germain 108. Paris. 1898. Paper. Price, 7 francs.

These clinical and therapeutic studies of epilepsy, hysteria and idiocy, have been conducted by men eminent especially in neurology and authorities in matters pertaining to diseases of the brain. Part I is devoted to a general history of the service during 1897, which is entertaining reading and filled with useful sug-

gestions. But Part II is the one devoted to the clinical reports and pathological anatomy. It contains twelve papers of which Bourneville is the author, assisted by one of the other of the gentlemen named in the title. Among the most generally interesting of those are the sections on *Chronic Serous Diarrhœa, treated by Salicylate of Lime; Epilepsy Due to Onanism; Idiocy and Epilepsy Symptomatic of Atrophic Sclerosis of the Two Frontal Lobes; Epilepsy Consecutive Upon Typhoid Fever; Complete Congenital Idiocy; Marked Amelioration of Medico-pedagogic Treatment.* But in addition to the value of the descriptions, the plates are of great value not only in illustrations of the text, but with reference to the study of other cases. They are all well made, and convey much information on examination of the drawings. This volume will prove of special interest to the neurologist who seeks to add to his storehouse of knowledge.

Guide to the Clinical Examination of and Treatment of Sick Children. By JOHN THOMSON, M. D., F. R. C. P., Ed., Extra Physician to Royal Hospital for Sick Children, and Lecturer on Diseases of Children, School of Medicine of the Royal Colleges, Edinburgh. *With 52 Illustrations.* Lea Brothers & Co., Philadelphia and New York. 1898. Cloth. Small 8vo. Pp. 336.

The practitioner who does not possess himself of this book will do himself an injury. It is not a text-book for colleges, but is supplementary to any of the best. It fills the gaps with plain practical experience notes, collected from observation, reading and personal practice. It is truly what its title indicates is the scope and value of the work—a “guide to the clinical examination and treatment of sick children.” It is much more than a book of odds and ends, for chapters are formulated, and plain, practical experience recorded in a manner that gives the information sought. It is especially valuable to the young doctor, who is in search of clinical knowledge. The chapter on Therapeutics mentions a number of remedies, and tells when and how to best use various drugs, etc.

Treatment of Choleraic Diarrhœa. Published by the Lambert Pharmacal Co., St. Louis. 1898. Cloth. 8vo. Pp. 64.

This is a collection of articles appearing in various journals, etc., bearing upon the utility of Listerine, especially in such diseases as acute enterocolitis, diseases incident to the second summer of childhood, cholera infantum, summer diarrhœa of children, epidemic dysentery, fer-

mentative dyspepsia; also, its prophylactic uses in such epidemics as cholera Asiatica, etc. Listerine is especially useful also in obstetric and gynecologic work, in surgery, in treating genito urinary diseases, respiratory diseases, eye and ear diseases, in zymotic diseases, cutaneous diseases, in dentistry, etc. In short, it is about the most generally useful article in a doctor's office or for uses in the family. Those of our readers who may be interested—as all should be in Listerine—may obtain a cloth-bound copy of the book gratis by simply writing the *Lambert Pharmacal Co., St. Louis, Mo.*, asking for it.

Office Treatment of Hemorrhoids, Fistula, etc., Without Operation. *Remarks on the Relation of Diseases of the Rectum to Other Diseases in Both Sexes, but Especially in Women, and the Abuse of the Operation of Colostomy.* By CHARLES B. KELSEY, A. M., M. D., Late Professor of Surgery at New York Post-Graduate Medical School and Hospital. Cloth. 12mo. Pp. 68. Price, 75 cents, net.

The immense title of this small book in effect tells its contents. It is, in reality, the collection in book form of three lectures—each good in itself, but not as full of detail as the general practitioner wishes. Fistulas may be cured by drainage with gauze, inserted to the base; piles may be cured by injections into the tumors under cocaine, or by stretching the sphincters, etc. We are afraid that we have to refer our readers to the larger book of our author in order that they may get a better idea of what to do and how to do it.

Editorial.

Medical Society of Virginia.

The printing of the *Transactions* of the recent session at Virginia Beach has been awarded to Messrs. J. W. Fergusson & Son, Richmond, Va., who will push the work to rapid completion if manuscripts are promptly furnished. Indeed, it is the order of the Committee of Publication not to wait for manuscripts that are not in hand by October 3d. Heretofore the Committee has been too lenient in this matter, which has greatly delayed the publication. Fellows and delegates who were in attendance and who did not register as such, should forthwith notify the Secretary, Dr. Landon B. Edwards, Richmond, Va. Fellows should also notify the Secretary at once of any corrections to be made in the Biographical Register.

Dr. L. H. Keller,

Formerly of Luray, Va., where, for the past fifteen years, he has been making a specialty of diseases of the ear, nose and throat, has removed to *Hagerstown, Md.*, to devote his attention to the same specialty. His eminent qualifications entitle him to the confidence of the profession and people. He has been an active member of the Medical Society of Virginia since 1876; has oftentimes contributed papers and discussions of great practical value. He has served faithfully on various committees, and has received the honor of being Vice-President of the Society. We are glad to know that while Maryland is to be the home of one of Virginia's ablest doctors, his native State will not lose association with him, as he proposes to continue membership in its State Medical Society.

American Academy of Railway Surgeons.

The fifth annual meeting will be held in the Auditorium, Chicago, Ill., October 5, 6 and 7, 1898. Dr. R. Harvey Reed, of Rock Springs, Wyoming, is President; Dr. D. C. Bryant, Omaha, Neb., Secretary. The Preliminary Program announces the following gentlemen as having promised papers for the occasion: Drs. R. H. Cowan, Radford, Va., on *Anæsthesia*; D. S. Fairchild, Clinton, Iowa, on *Traumatic Injuries of Peripheral Nerves*; Wilton Jay, of Chicago, on *Injuries of the Genital Organs*; W. J. Mays, Rochester, Minn., on *Radical Cure of Hernia*; H. Reineking, of Sheboygan, Wis., on *Concealed Meningeal Hemorrhage*; W. J. Galbraith, of Omaha, Neb., on *Interment of Ericson*; J. F. Pritchard, of Manitowoc, Wis., on *Physical Examination for Railway Service*; G. P. Conn, of Concord, N. H., on *Hygiene of Railway Injuries*; H. Hatch, of Quincy, Ill., on *Conservatism in Railway Surgery*; R. Harvey Reed, of Rock Springs, Wyoming, *President's Address—The Higher the Order of Railway Surgery, the Greater the Protection to the Employee, the Passenger and the Company*; E. H. Trickler, of Cutler, O., on *Convenient First Dressing of Fractures, with Samples*; and G. E. Benninghoff, of Bradford, Pa., on *Surgical Treatment of Some Varieties of Disease of the Prostate and Seminal Vesicles*. In addition, the following Fellows have promised papers, but have not forwarded subjects for the same: Drs. A. D. Bevan, Chicago, Ill.; Allen Staples, Dubuque, Iowa; LeRoy Dibble, Kansas City, Mo.; C. K. Cole, Helena, Montana; and George W. Crile, Cleveland, Ohio.

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Original Communications.

PLACENTA PRÆVIA—ITS PATHOGENESIS AND THERAPEUTICS.*

By GEORGE TUCKER HARRISON, M. A., M. D.,

Obstetrician to the New York Infant Asylum; President of the
New York County Medical Association, etc., etc.

In those domains of medicine like the subject of this thesis, which may be said to belong to the general practitioner as well as the specialist, it seems to me to be the privilege of the former to ask of the latter such illumination as shall guide his footsteps when involved in doubt and obscurity. It is true that now and then he receives such answers to the questions he propounds as are given by certain parents to their children when asking questions that they regard as impertinent and irrelevant.

It is in no such spirit that I enter upon the task I have assigned myself this evening, but rather it shall be my aim to be helpful to him whose severe and exacting duties give but little leisure to follow the developments of modern science.

No theme exceeds *placenta prævia* in interest and importance. Involving, as it does, great danger to both mother and child, it is a subject of congratulation that art can here accomplish so much, especially when art goes hand in hand with science, or, to express it in other terms, when our therapeutical endeavors have reference to certain anatomical, physiological and pathological facts which recent science has revealed.

The history of this subject does not go far back into the remote past. It is true that it has been asserted that Hippocrates describes *placenta prævia* in his discourse upon "Superfætation," but the only passage to be found in this treatise which a vivid fancy might interpret as referring to this morbid condition is

the following: "*Si parturienti ante fœtum multus sanguinolentus citra dolorem fluxus contingat periculum est ne fœtus mortuus exeat, ante minime vitalis edatur*"—"If a copious bloody discharge happen to a parturient woman, without pain, before the birth of the fœtus, there is danger that the fœtus may die before, at least, it is delivered alive."

In fact, the first unequivocal mention of this anomaly dates from Guillemeau, 1608. This author, as, after him, Mauriceau, 1668, entertained the opinion that the placenta was originally attached to the fundus, but subsequently prolapsed.

Schacher,¹ of Leipzig, however, in the latter part of the year 1709, on opening the uterus of a gravid woman who had died of hæmorrhage, found the placenta adherent to the margin of the internal *os uteri*, and drew the correct inference that, without a doubt, *primis gestationis temporibus radices in hanc uteri partem immiserat*—"It had implanted itself at an early period of gestation upon this portion of the uterus."

In 1715, Johann Von Hoorn,² who was probably a pupil of Paul Portal,³ published a manual for midwives, and in express terms mentioned that "sometimes the placenta, at the very beginning of pregnancy, is implanted upon the mouth of the uterus, whence, as soon as the latter opens, the former necessarily becomes detached; and the more it is detached, the greater the amount of blood from the lacerated vessels."

Portal, 1688, himself speaks of having found the placenta adherent to the internal *os uteri*, but hazards no opinion in regard to its origin.

In 1730, Johann D. G. Brunner,⁴ a pupil of J. J. Fried, maintained a thesis at Strassburg

¹ Schacher, Polyc. Gottlieb et Seyler Christiana Jacob—*De Placenta uterina morbis*, Lipsie, 28 November, 1709, Vol. VIII.

² *The tvenue gudfruchte Siphra och Pua, &c., Stockholm*, 1715, Cap. VII, Ed. ted Stock. et Leipzig, 1726.

³ *La Pratique des accouchements*, Paris, 1685, obs. 39, 41, 43, 51, 69, 79.

⁴ An extract is found in *Commercium Literarium* of Nuremberg, 1731.

* Read before the Jenkins Memorial Medical Society, of Yonkers, New York, December 9th, 1897, which met at the house of Dr. Andrew F. Currier, Mount Vernon, New York.

de partu præternaturali ob situm placenta super orificium uteri internum—"Concerning præternatural birth on account of the placental site over the internal mouth of the womb." And added three cases to those already known. If they were preceded by others who had the proper idea in regard to placenta prævia, so far as its clinical significance was concerned, to Giffard¹ and Levret² indisputably is due the merit of having established the true doctrine on a firm basis.

Hunter,³ in his magnificent work of art, gives an excellent representation of a uterus with placenta prævia in the opening period. A copy of this work, I may remark in passing, is in the library of the New York State Medical Association in the Mott Library Building.

The ætiology and anatomy of placenta prævia have been elucidated by the investigations of M. Hoffmeier in a most satisfactory way. He demonstrated that the anatomical basis of placenta prævia is to be sought in the fact that a larger or smaller part of the chorionic villi undergo further development in the reflexa, in which ordinarily atrophy of the villi occurs. Physiology teaches us that, under normal conditions, the chorionic villi do not develop further, and that atrophy results in that part of the ovum that corresponds to the reflexa; and, again, that the formation of the placenta takes place on the *serotina*.

From these researches of Hoffmeier,⁴ it now appears to be demonstrated that the villi may abnormally undergo further proliferation in the reflexa and lead to the formation of a placenta. As soon as this happens on the lower pole of the ovum, which is turned to the inner os uteri, the portion of the placenta covered by the reflexa lies at first on the decidua vera of the lower internal segment, and in course of time the two adhere together.

In this way is explained the formation of the placenta in the lower uterine segment, and why is it that in the living woman the inner os uteri is apparently covered by tissues of the placenta?

Hoffmeier, after a careful description of a preparation, remarks: "There remains no other explanation than that we have here to deal with a quite extensive placenta-formation on the original decidua reflexa, and that at a stage when the reflexa has entered into no further union or blending with the vera."

Kaltenbach¹ confirmed the views of Hoffmeier, and explained the genesis of the anomaly as follows: In consequence of the morbid condition of the mucosa-endometritis with hypersecretion—as well as in consequence of the concave expansion outwardly of the flabby uterine wall—the attachment of the ovum in the neighborhood of the tube is hindered. It finds a certain point of fixation further below, and thence primarily is inserted on a deeper plane than ordinary. But at the same time the hypersecretion of the inner surface of the uterus renders difficult, and delays the application of the reflexa to the opposite surface of the vera. The chorionic villi enclosed in the sac of the reflexa are able to participate in the formation of the placenta to a slight degree only and late, and thence is formed a rudiment of a placenta of inadequate proportions.

Many of these ova perish as abortions, therefore, in consequence of insufficient nutrition and respiration. Some, however, may satisfy their metabolic requirements from the fact that chorionic villi maintain themselves within the reflexa, and are transformed to placental tissue. The conditions to bring this about are furnished in endometritis by the thickening and by the stronger vascularity of the decidua. If this process takes place within the reflexa of the lower pole of the ovum, a placenta prævia is formed. According to this explanation, chronic endometritis, which heretofore played an important rôle in the ætiology, still retains its place as an important ætiological factor.

As preliminary to a just comprehension of the phenomena exhibited by placenta prævia, a study both anatomical and physiological of the lower uterine segment and the cervix during the latter part of gestation and during labor is indispensable.

After the older views in regard to the behavior of the cervix during pregnancy had been overthrown—and in this connection the researches of Dr. Isaac E. Taylor are worthy of special commendation—it seemed as if our knowledge were established on a secure foundation. The arguments, however, adduced by Baudl in successive publications, resting as they did on extensive observations, seemed to found anew the older view, with some modifications.

The result of these writings, and of the discussions to which they gave rise, have been to show that, during labor, the uterus is differentiated into a retracting and thickening upper part, and into an expanding, thinning lower uterine segment and cervix.

¹ Zeitschrift fuer ged. in Gym., Bd. 18-5-1.

¹ Giffard, William, *Cases in Midwifery*, London, 1734, Case CCXXIV.

² *L'Art des Accouchemens*, Paris, 1766, Ed. Supplément. Art. IX, p. 35.

³ *Anat. ut. hum. grav.* Birmingham, 1774, Tab. XII.

⁴ *Die Menschliche Placenta*, Wiesbaden, 1890.

In the graphic language of the *Lancet* (February 26, 1897, p. 437), "the lowest part of the retracted fundus is felt after labor as the bottom of the hard uterine cricket ball; below it comes the cervix and lower uterine segment; hanging loose, apparently unretracted and passive like a piece of flabby hose." As to what is lower uterine segment and what cervix, has given rise to animated and even embittered controversy. For my own part, from clinical observation, I am firmly convinced of the correctness of the views advocated by Schroeder and his pupils, confirmed as they have been by Chiari, and, with Hoffmeier, believe that "the lower uterine segment forms a well characterized part of the uterine body, both from its anatomical structure and from its mucous membrane investment, and that it differs essentially in both particulars from the cervix in the pregnant, as well as in the puerperal, uterus. It differs not essentially, macroscopically as well as microscopically, from the remaining part of the uterus, and deserves, therefore, with right, a separate designation."

During labor, the lower uterine segment is essentially passive in contrast with the upper part of the uterus, which exhibits active contractions, the boundary between the two being well designated by Schroeder as "ring of contraction." And here I would remark that no one who reads the reports of cases of placenta prævia with which our medical periodicals teem, or who carefully peruses the elaborate expositions devoted to this subject in our best text-books, can fail to be struck with the diversity of views obtaining among medical men, both as regards pathology and treatment.

The consequence is that the average practitioner of medicine, when called upon to cope with the difficulties of a case, finds at the bedside that his knowledge is intangible and evanescent.

Let us see, then, if it be not possible to strip the subject of unnecessary details and the refinements with which it has been encumbered, and to get at the heart of the main facts of pathology and treatment.

The single but all important, symptom of placenta prævia is hemorrhage.¹ This hemorrhage is caused by the detachment of the placenta from the uterine surface adjacent to the internal os uteri. What, now, we ask, is the mechanism of this separation? As Matthew Duncan has clearly demonstrated, the placenta, under these circumstances, is not detached by a contraction of the lower uterine segment, but,

on the contrary, by a distension and dilatation of this segment of the uterus.

"The lower part of the cavity of the uterus," observes the author, "as it is distended in advanced pregnancy, is part of a spheroid or hemi-spheroid, with which the cervix is in connection, and of whose surface the internal os of the cervix occupies the vertex. To form the genital passage for the child, this hemi-spheroidal shape is destroyed by the expansion of the above-named internal os of the cervix and of the adjoining parts. That which formed during pregnancy a portion of a spheroid, forms during the passage of the child a small part of a nearly cylindrical tube."¹

The parts lying near the internal os must necessarily be the most extended in a transverse direction. Under physiological conditions the placenta is detached because it cannot follow the strong contractions of its surface of attachment. But, as Schroeder correctly observes, that part of the uterine cavity out of which the lower uterine segment is formed is quite a narrow zone, to which only a portion of the previous placenta is attached. It is necessary, therefore, to seek an additional cause for an explanation of the detachment of the placenta and the subsequent bleeding. As we have just said, the uterus in labor is differentiated into an ever thickening and contracting upper part, bounded by the ring of contraction, and the constantly thinning and expanding "lower uterine segment" and cervix for the passage of the ovum; and, coincident with this change, the greater part of the uterine body retracts on the ovum, consequently the ring of contraction slowly moves upward.

This disturbed relation between the inner surface of the uterus and the surface of the ovum is most marked in the vicinity of the internal os uteri, and, consequently, these parts are most retracted.

If, then, towards the end of the first stage of labor, the membranes are still unruptured, the separation of the uterine body from the ovum will be very considerable, embracing at least half the ovum.

In placenta prævia, if the bag of membranes is intact, the placenta cannot change its position on the ovum, and consequently, with the progressive dilatation of the internal os, the separation of the placenta goes on *pari passu*, each forcible contraction detaching additional parts of the placenta. On the contrary, if the bag of membranes breaks spontaneously, or is artificially ruptured, the placenta is not com-

¹ *Der Schwangen u. Kreissende Uterus*, Bonn, 1886, p. 70.

¹ *Mechanism of Natural and Morbid Parturition*, Edinburgh, A. and C. Black, 1875.

pelled to maintain its original position, but can retract with the uterine body, and hence, as a rule, a cessation of the hemorrhage.

In the case of *placenta prævia centralis*, the relations are somewhat more complicated; the separation from the inner surface of the uterus is more extensive, and the hemorrhage necessarily more profuse; yet, under these conditions, the placenta may be drawn above by the uterine wall after rupture of the membranes.

The source of the bleeding is in the *placental site*. Clinical observation has amply shown that in *placenta prævia centralis*, the bleeding begins usually during pregnancy, while in *placenta prævia lateralis*, there is no bleeding, ordinarily, until labor begins. The explanation is to be found in the fact that "the lower uterine segment" is formed and the internal os uteri expands, to a certain degree, during pregnancy, and consequently, in *placenta prævia centralis*, the bleeding begins, in the latter months of pregnancy, suddenly and unexpectedly.

In treatment, the chief problem we have to solve is to guard the patient against two dangers which menace her existence—bleeding and sepsis. Another danger should be borne in mind, and that is air embolism due to the proximity of the venous vessels, opened during birth, to the external world.

To minimize this risk, our operative procedure should be undertaken with the patient on her back, in order to secure positive intra-abdominal pressure.

Dangerous—nay, fatal—bleeding may occur in pregnancy during delivery and after childbirth. The especial liability, of women who are the subject of *placenta prævia*, to septic infection is readily explained by the low situation of the placenta, and by lacerations so frequently produced in this anomaly—a condition of things affording but too favorable a gateway for admission into the system of infective matter through the agency of the examining fingers of the accoucheur or his instruments. Moreover, the intense anemia consequent upon the great loss of blood they have sustained, which is so common in this class of patients, particularly predisposes them to puerperal septicemia.

This is explained by the extensive thrombosis to which the anemia gives rise, and by a more rapid absorption incident to their condition, a favorable soil for the infecting agent being thus produced. If, during pregnancy, the bleeding be moderate, it will be sufficient to confine the patient to bed, give her cooling drinks, guard her against all injurious influences, and keep her bowels open.

If the bleedings are profuse, they must be arrested by the tampon, using plain sterile or iodoform gauze, supposing the cervix is still closed—and this, it may be remarked, is a rare occurrence, because the contractions which cause the bleeding at the same time expand the cervix, as a rule. The tampon should be firmly packed in the vagina and the accessible part of the cervical canal. After a few hours, it will be found that the cervix, in consequence of the increasing contractions, has been found sufficiently dilated to admit two fingers; as soon as this happens, independently of the time of pregnancy and the intensity of the pains, an active procedure is indicated.

This active procedure consists in the resort to the bipolar method of podalic version, introduced by Braxton Hicks in 1860, who demonstrated that as soon as the cervix would admit one or two fingers, this method was applicable to the treatment of *placenta prævia*.

I would modify Braxton Hicks' statement so far as to insist that the cervix should be sufficiently dilated to allow the introduction of two fingers before having recourse to this method. The technique otherwise would be exceedingly difficult to the majority of obstetricians. This procedure is guided by two leading motives; by emptying the uterus before much loss of blood, we produce a contraction and retraction of the muscular uterine tissue and secure the patient against the dangers of subsequent uterine atony; and, again, by superseding the necessity of the vaginal tampon, we eliminate a potent cause of sepsis—the breach of the child performing the function of a tampon.

The preliminary act of rupturing the membranes just before the version has, as a rule, the effect of controlling or moderating the bleeding, as physiological considerations would, *a priori*, lead us to expect, because, under these circumstances, the membranes of the ovum and the placenta can retract upward on the child.

This procedure offers comparatively little difficulty in cases of *placenta prævia lateralis*; but when the placenta is centrally implanted, it is often necessary to perforate it in order to attain to the cavity of the ovum, and this necessity diminishes the chances of the child's life, as large fetal vessels are in this way frequently wounded.

The splendid results achieved by Hofmeier, Behm, Lomer and Olshausen have demonstrated the efficiency of this method in reducing the fearful mortality, as far as the mothers are concerned, to a very small percentage.

It cannot be denied, however, that the mor-

tality among the children, with the addition of this method, has not been diminished—nay, it is possibly increased, especially in case of central implantation.

The problem of the future is to endeavor to diminish this terrible sacrifice of child-life. The importance of slow extraction, after a leg is brought down, cannot be too earnestly insisted upon in view of the great danger of causing laceration of the cervix, if too much force is brought into play.

Behm allowed the child to be born spontaneously after version; and certainly his remarkable success may well challenge our attention to his precepts.

It seems scarce necessary at this day to urge that, above all things, the principles of aseptic obstetrics should be carried out to the minutest details in these cases.

Never should the obstetrician intervene before his hands or instruments are made sterile and the field of operation, so far as the external genitals are concerned, made aseptic. The vagina should be irrigated with a lysol solution only when there is a suspicion that it is not aseptic. Moreover, when active intervention is demanded the patient should be lifted out of bed and placed upon a table—and such I have been able to extemporize in every private house.

In this way our manipulations are vastly facilitated. It is not intended, by any statements heretofore made, to deny the well-attested fact that many cases of placenta prævia proceed to a favorable termination without artificial intervention. This, of course, is much more likely to occur when the placenta is laterally than when centrally implanted.

In some cases of central implantation the child has been born wearing the placenta like a cap on its head—the uterus, in such cases, acting with unwonted energy.

"On this, the well known treatment of Simpson," to quote from the excellent editorial of the *Lancet*, before referred to, "The complete detachment of the placenta by the hand, and its modification by Barnes—partial detachment"—were founded.

It is to be remarked that Simpson's treatment was founded on an interpretation of the phenomena which implied that the woman was delivered safely because the placenta was detached. Whereas, in our opinion, such cases only show that the uterus acted with unwonted vigor—shortening the dangerous period and producing good retraction, which, as is well known, is the only safeguard against bleeding.

Detachment of the placenta, apart from vigor-

ous uterine action, is only an increased element of danger; but most cases of placenta prævia do require prompt and wise intervention, and to wait for their spontaneous termination would be as wrong as to wait for some form of spontaneous expulsion or evolution in a cross-birth. Treatment, to be rational, must be founded on the pathology and natural history of diseases; in other words, it must take cognizance of the causes of death, with the view to avoiding them, and of the manner in which nature deals with them when she does so successfully."

In the third stage of labor, if the bleeding ceases, our behavior should be expectant, otherwise the placenta should be expressed after Crêde's method.

If the bleedings persist, it should be immediately determined whether the cause be due to atony or laceration of the cervix. In the latter event, the injury should be repaired at once. In this way I have repeatedly saved life. When due to atony the uterus and vagina may be tamponed with iodoform gauze after the method of Dührssen.

In conclusion, permit me to appropriate the eloquent words of Lord Bacon, and say that it has been my aim "To separate and reject vain speculations and whatsoever is empty and void, and to preserve and augment whatsoever is solid and fruitful; that Knowledge may not be a courtesan, for pleasure and vanity only, or as a bond-woman, to acquire and gain to her master's use, but as a spouse, for generation, fruit and comfort."

221 West 23rd Street.

EXTRA-GENITAL SYPHILIS IN SOME OF ITS SOCIOLOGIC RELATIONS.*

By BERNARD WOLFF, M. D., Atlanta, Ga.

The subject of extra-genital syphilis, while not new, offers a never-failing interest to the student of medicine and of social conditions.

It seems to me that we who live in the South are exceptionally liable to the acquisition of what Bulkeley has called syphilis insontium. The ever-increasing syphilization of the negro, growing out of moral laxity and sexual promiscuity, and the relation that this race bears toward the white people as domestic servants and nurses, subject their employers to risks so great as to appall the fancy and make us stand aghast at the possibilities of unspeakable disaster.

* Read before the Atlanta Society of Medicine, Sept. 1, 1898.

Not long ago, I noticed a moist papular syphilide on the neck of my little girl's nurse, an affectionate creature, much given to fondling her charge. It brought home to me, in a manner startlingly impressive, a realization of the danger incurred in submitting our children to the care of negro attendants, whose condition of health we too often neglect to investigate. If the hazard be great in a doctor's family, how much greater is it in that of a layman, who is unable to recognize the signature of the disease unless writ so large as to be recognizable even to the uninitiated.

During the conduct of a public venereal clinic for the last five years, I have seen many cases of syphilis in a communicable form among servants, both male and female, employed in various capacities in white households.

I recall, in particular, two. One was that of a large specific ulcer of the leg on the person of a cook employed in a family, the head of which subsequently came under my professional care, when I had the opportunity of performing the deferred duty of acquainting her with the nature of her cook's malady, much to her horror and amazement. There was no special risk of transmitting the disease from the ulcer, but the association of it with a person engaged in preparing food was repulsive in the extreme.

The other case was that of a massive chancre on the skin of the penis of a young negro waiter, serving at a large boarding-house. The patient was rather cleanly, but the discharge from the sore was so profuse that the dressings had to be constantly renewed. If there be truth in the notion of conveyance of syphilis through the medium of eating utensils, here was an opportunity that lacked nothing of fulfilling the ideal conditions.

The fingers of the waiter, fresh from the toilet of the penis, necessarily came in contact with the table utensils; but I shall not dwell upon the repellant details more than to add that, danger of syphilis aside, the thought of such an unclean person engaged in such an occupation would be sufficient to disturb the *sang froid* of the most complaisant boarder.

The question arises in this connection, What is the duty of the physician toward the employer when the servant comes to him for treatment for syphilis? To my mind, it is our behoof to inform those exposed of the dangers attendant upon harboring a case of infectious disease of this nature. Then, having discharged this obligation, let the employer decide upon the proper course to pursue.

This duty is always difficult, often impossible, to perform. If we constitute ourselves intermediary advisers between employer and employee, we might be criticised as violating the obligation of professional reticence, and would shape for ourselves a disagreeable task that might perhaps recoil upon us.

In the case of nurses suffering from communicable syphilis, and in the employment of those who are appreciative of such advice and warning, it is a distinct obligation upon us to protect the innocent by informing those exposed of the menace.

We may thus save some life, the happiness and usefulness of which is imperilled.

It must be confessed that though this duty has confronted us all, we are prone to procrastinate in its fulfillment. We appreciate the danger and apprehend the consequences which may proceed from silence, but are complaisant over it, and more than half inclined to let the affair take its course, permitting a weak human sympathy, and a false sense of protection of the patient, to obscure the greater good. It need not be said that such inaction is culpable and a grave dereliction of duty.

It is fortunate, surrounded by dangers as we are, that instances of syphilis innocently acquired are infrequent. I say infrequent advisedly, for the number of victims of syphilis insontium is insignificant compared to the vast army of those who have been injured in the wars of Venus. It is very comforting to realize that this is a fact, and that the danger is not so imminent as some syphilophobics would have us believe.

Were the contrary true, and were syphilis the intensely contagious disease that it is sometimes depicted, none could escape. Contact with vehicles of contagion is of such constant, though unsuspected occurrence, as to render the danger ever present.

Contemplation of the menace would tinge every act with melancholy, apprehension, and brooding over the dire possibilities that lead to engulfment in hopelessness and despair.

It is not my intention to belittle the danger of non-venereal infection beneath what I conceive to be its real position, but to protest against sensational exaggeration which tends to subversion of the truth. Instances do occur with sufficient frequency to establish the fact, but not to warrant extreme alarm.

To prevent the relatively few examples is one of the objects of preventive medicine. It is difficult to obtain exact information of the number of cases acquired innocently by non-venereal contact. Many cases without demon-

strable initial lesion may have originated innocently. Do you not recall, as I do, instances occurring in your practice, of women whom you know to be as chaste as Niobe, whose husbands bear the most rigid scrutiny into their moral history, yet the disease was there in all its unchecked bourgeoning, and necessitated explanations at once delicate and difficult for the medical attendant?

A chance kiss in the course of social usage, the insufflation of specific material into the tonsillar crypts, or any of the numerous ways by which the offense comes, may inaugurate the melancholy train of events. The poison may even lurk in the communion cup, and infection spring from beneath the very horns of the altar. In the matter of the ceremonial observance of the sacrament, syphilis is the disease most liable to be communicated. There is a quiet but steady movement in ecclesiastical circles to replace the communal chalice by the individual communion cup. A number of churches of different denominations have already adopted this system, and more would doubtless follow the example were it not for the conservatism which has always marked the affairs of the Church when it concerns the introduction of reform. There are those in whom excess of faith leads to the belief that communicants enjoy a God-bestowed immunity from disease when exposed to it at this solemn ceremonial. But such faith is irrational, and approaches too near to blind superstition, to merit respectful consideration. A sound body is the highest praise to God—disease the defilement of His work.

Among a considerable number of cases of extra-genital syphilis which have fallen under my notice during the last few years, the following is perhaps the most instructive and noteworthy:

L. R. C., a stout, well built lad of 17, was sent to me by a physician for treatment of an ulcer of the nose.

The ulcer was of the size of a 50-cent piece; situated upon the left side of the nose, encroaching upon the lip and the edge of the nostril. Its base was covered with a dirty yellow slough; its edges were satient; and the whole, when compressed between the fingers, gave a sensation of springy resistance.

The pre-auricular and submaxillary glands were markedly engorged. The diagnosis of chancre was made, and subsequently fully confirmed by the appearance of secondary symptoms. The nature of the trouble was plain, but its mode of acquirement remained for some time shrouded in mystery. At length,

the patient incidentally informed me that his brother was coming to see me about a very sore mouth, from which he was suffering. A few days thereafter the brother, a young man of 21 years, consulted me, and I found his buccal cavity practically converted into a mucous patch. The boys occupied the same bed, and used the various conveniences about their room in common.

It was not difficult then to explain the mystery of the nasal chancre. The younger brother was the subject of a mild acne, and was in the habit of squeezing the pustules and comedones. The contagion was carried in this way to his face, his fingers having been contaminated from some object used by his brother. The case thus far has been a severe one.

I think we are warranted in drawing the following deductions from the foregoing remarks:

Syphilis insontium exists, though the instances are not frequent, or, to put it somewhat differently, means of establishing their origin transcend our present knowledge and capability.

That we should protect those exposed by timely warning.

That we should use every precaution to exclude from our own households, and those of our patrons, all servants suffering from communicable syphilis—such precautions consisting in physical examination and careful interrogatories.

If we thus save one single person from pain, mortification, and disgrace, we shall be fully compensated.

SURGICAL TREATMENT OF MORBID CONDITIONS INVOLVING THE BROAD LIGAMENTS.*

By AUGUSTUS P. CLARKE, A. M., M. D., Cambridge, Mass.

In operating on cysts or on morbid growths developing between the broad ligaments, it becomes necessary, in order to avoid injuring the ureter and some of the more important blood-vessels, to exercise as much care as is required in cases of diseases demanding hysterectomy.

In those cases in which numerous adhesions have occurred, as the result of inflammatory or of other morbid processes, a loop of intestine may be found entangled in the mass; such

*Original abstract of a paper read before the American Association of Obstetricians and Gynecologists, at its Eleventh Annual Meeting held at Pittsburg, Pa., September 20-22, 1898.

cases always necessitate the employment of special precaution lest in the course of extensive manipulation to free the parts, undue violence result to important structures involved.

In those cases in which the cysts or growths are only partially intra-ligamentous, removal by enucleation can be effected more rapidly. The cavity or bed of the tumor should be obliterated by suturing its sides together; in cases of such a character it will rarely be necessary to ligate previously the ovarian or other large arteries.

Drainage as far as possible should be dispensed with. Reliance should be placed on the scrupulous care taken in the management of the toilet of the peritoneum and on the aseptic condition of all materials and instruments employed in the operation.

Mention is made of the occurrence of hematomata and hemocele from rupture of the sac of tubal pregnancy within the structure of the broad ligament, and of the necessity of prompt surgical interference. When suppurative processes appear, or a lithopædion or other abnormal formation takes place within the broad ligaments, the employment of surgical measures should not be deferred.

Varicocele of the broad ligaments is also mentioned. Excision of the parts, including portions of the ligaments with the tube and ovary, furnishes, in some cases, the only safe means for a permanent cure. Sarcomatous and other malignant neoplasms, involving to any great extent the ligamentous structures, are rarely overcome by extirpation, excision, or enucleation. Myomatous and fibro-myomatous formations originating in those parts demand the early adoption of surgical procedures, on account of the danger of such growths assuming a malignant transformation.

ECCHYMOSIS OF THE BULBAR CONJUNCTIVA AND LIDS—IMPORTANT SYMPTOMS IN ACUTE CEREBRO-SPINAL MENINGITIS.*

By J. F. WOODWARD, M. D., Norfolk, Va.,

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It is not my purpose to write a paper on this subject, but to report several cases that have recently come under my observation, wherein there were symptoms new to me, and I hope will be interesting to my readers.

* Read before the Medical Society of Virginia, August 31, 1898, during its Twenty-ninth Annual Session, at Virginia Beach, Va.

CASE I.—Dora S., age seven, seen in consultation with Dr. Baxter, of Huntersville, Virginia. She had been sick several days before I saw her, though the doctor did not think her hopeless, as few of the marked symptoms of meningitis had set in. I found her with a temperature of 102° F., slightly delirious at times. She gave intelligent answers, and said that she was suffering no pain, and could see all right. The ophthalmoscope showed engorged retinal vessels, but no hemorrhage or papillitis. The bulbar conjunctiva was blood red in both eyes from a subconjunctival hemorrhage, that, the doctor said, began primarily in the nasal sides. The loose tissue in both the upper and lower lids was purple from the infiltration of blood. There was no swelling in either the lids or the conjunctiva. The fields of vision were good, and the eyes not strabismic. Her symptoms looked like an attack of bilious malaria rather than meningitis. She died next day with unmistakable signs of meningitis.

CASE II.—B. S., seen in consultation. Her symptoms were very similar to those of No. I, except that the hemorrhage was not as general, and the infiltration was not complete in the bulbar conjunctiva. In this case there was a slight papillitis and some dimness of vision. The temperature ranged from 99° to 102°. She died, as did the other case.

CASE III.—Mrs. S. H., age 57, had been sick several weeks, but took to the bed when her right eye became very red; slight secretions and photophobia; retinal vessels engorged and vision reduced one-third. This passed off in a few days, though in five days it returned, when her general symptoms pointed somewhat to malaria. Her symptoms abated, but three days later she developed meningeal symptoms, and a few days later died in coma, with all inflammation of the eye subsiding twenty-four hours before her death. Her temperature ranged from 99° to 103° F.

I know that these three cases do not prove anything, but the symptoms are not common, and as I have experienced more or less difficulty in coming at a satisfactory diagnosis and prognosis in meningeal cases where there were no special focal signs, I give these cases for what they are worth in diagnosis. When certain brain centers are attacked by disease, the symptoms are so plain that a wayfaring man may not err; but there are chains of symptoms that break and confuse to the extent of mystifying in general inflammation of the meninges of the brain. A dilated pupil, a dropped lid, a twitching muscle, or crooked

finger, mean much when the cerebral citadel is attacked; yet they often appear too late to be of service. In these cases, the infiltration was a symptom without a special pathology. Parotitis, arthritis, pleurisy, and pericarditis sometimes occur as complications in meningitis. Deaf-mutism and mental weakness may follow; optic neuritis and atrophy may result in partial or total blindness. Irido-choroiditis and squint have been seen to follow, but here there were no ophthalmic changes, no swelling, no pain, no chemosis—simple hemorrhagic infiltration, indicative of the condition of the cranial contents.

We see numerous cases of subconjunctival hemorrhage from rupture of small blood vessels following some diathesis, but few cases like these outside of a true purpura.

In the recorded cases subjected to a special examination of the morbid anatomy, the veins, arteries, and sinuses were much engorged, a decided overplus of blood in the brain, and the exudates indicate that blood pressure had been very high. Osler found the exudates in secondary meningeal inflammation most commonly in the cortex, and externally along the cranial nerves, especially the optic and auditory. Knowing the anatomy of the orbit, you can easily see how this route is the line of least resistance in the case of great meningeal engorgement.

THE PROGNOSIS OF DEFORMITY.*

By R. TUNSTALL TAYLOR, M. D., Baltimore, Md.,

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Thanks to the American ingenuity and the able leadership of such men as Sayre, Fayette Taylor, Knight and Buckminster Brown, and more recently, of Bradford and Gibney, together with the introduction of aseptic surgery, deformity has lost many of its terrors, and the prognosis as to the cure of crippling diseases and their results have been rendered much more exact and satisfactory.

To obtain these satisfactory results—i. e., a favorable prognosis—there are two essentials for the attending orthopædic surgeon—innate mechanical knack and thorough training.

To meet the latter requisites, the great universities in the North have not been slow to recognize the importance of the establishment and equipment, each of a special chair, in orthopædic surgery, since Dr. Sayre, more than

a score of years ago, first taught, in this country, this important branch of surgery, and sent forth pioneers to alleviate the suffering of tubercular and other joint diseases, to say nothing of the mental anguish of cripples.

The importance of the encouragement of institutions for the relief of deformity and the improvement in methods and technique in their treatment has not only appealed to our great universities and colleges and the profession at large, but to the State and city governments, as of economic value in creating bread-winners from those, who previously had been doomed to be crippled beggars on the city streets, pensioners of alms-houses, or of homes for incurables.

As an example of this encouragement, if I may be permitted to mention it, the uniquely rapid growth of the Hospital for the Relief of Crippled and Deformed Children, of Baltimore, in the past thirty months, may be cited. Starting with nothing, it now owns \$25,000 worth of real estate in its hospital and dispensary buildings in Baltimore, thoroughly equipped with modern aseptic furniture and apparatus for the treatment of deformity, with forty beds and a mountain hospital at Blue Ridge Summit, Pennsylvania, with twenty-five beds to give the tubercular cases the advantage of the higher altitude.

To review the literature of recent methods briefly, which have been factors in the improvement in the prognosis of the more common varieties of deformity seen, such as tubercular disease of the spine, hip, and knee, scoliosis, club-foot, flat-foot, infantile paralysis, knock-knee, bow-legs and congenital dislocation of the hip, I will take them up *seriatim*.

In *tubercular disease of the spine, or Potts' disease*, in the general hospitals and dispensaries, even now, in many cases, the plaster-of-Paris jacket is considered the *sine qua non* in treatment. This is manifestly incorrect, as I endeavored to point out in a recent article,⁽¹⁾ as it is only applicable to tubercular disease in the lower dorsal and lumbar spine, where the plaster corset can get a firm hold *above* as well as *below* the seat of the disease.

I was quite amused at a student this past winter, who had been irregular at lectures and clinics, when asked at the "quiz," how to treat cervical caries of the vertebrae, replied, "A plaster-of-Paris jacket, applied from the axillæ to the pelvis, was all that was needed."

It renders the prognosis in upper and mid-dorsal Potts' disease as unfavorable to use a plaster jacket *alone* in the treatment, as in cervical, and for a similar mechanical reason.

*Read by invitation before the Medical Society of Virginia, at Virginia Beach, Va., September 1, 1898.

Time permits of but passing mention of Brackett's recumbent hammock ⁽²⁾ and my own plaster jacket stool ⁽³⁾ as newer methods of applying jackets, with or without traction, as is used in the well-known Sayre's suspension sling ⁽⁴⁾—the object of both of our methods being to put the patient in a position of moderate lordosis, throw the superincumbent weight off of the diseased vertebral bodies to the healthy articular, transverse and spinous processes, and to antagonize the kyphosis, which is the well-known tendency of this disease in the production of hunch-back.

For the treatment of Potts' disease from the mid-dorsal region upwards, the unsightly jury mast of Sayre, ⁽⁴⁾ although mechanically efficient, has been superseded by the twill cotton apron, steel back-brace and head-support of Charles Fayette Taylor, ⁽⁵⁾ or various modifications thereof depending on the principle of leverage, with the little hump as the fulcrum, the pelvis and lower spine the long arm and fixed point of the lever, and the upper spine the portion pulled backwards.

As this disease is much more frequently in the mid- and upper-dorsal regions than elsewhere, the prognosis is frequently far from good, simply from neglect or ignorance of the proper treatment.

The revisal by Calot of Berk-sur-mer ⁽⁶⁾ of the old operation of Hippocrates and Ambrose Paré of forcibly straightening the spine, supplemented by modern braces and much written of by its modern author, Redard ⁽⁷⁾, Chipault, ⁽⁸⁾ the real modern originator, although Calot reaped the glory, Jones ⁽⁹⁾ and Tubby, ⁽¹⁰⁾ in England, and Gibney, ⁽¹¹⁾ Goldthwait, and others in this country, has aroused keen interest, not only among orthopaedic surgeons, but among the general profession and laity as well.

This operation consists, in plain terms, of a traction of 50 to 200 pounds on the head and extremities of the hump-backed child, and pressing in the gibbosity with great force, from 40 to 100 pounds, and then, after reduction, putting either plaster-of-Paris or steel retention apparatus on the child to prevent relapse of the deformity. Chipault insists that, after forcible reduction, an incision must be made down on the spinous processes in the region of the knuckle, and they must be wired together with stout silver sutures to prevent relapse.

Up to the introduction of this operation we have been content with endeavoring to keep the knuckle from enlarging after it comes under treatment.

While the results of this operation have been almost marvellous in many cases, and attended by speedy convalescence, the ultimate results and the possibility of the permanent discarding of the brace in time are still *sub judice*, as the operation has been introduced so recently that sufficient time has not elapsed to draw any conclusions, and the well-known pathology of the slow repair of tuberculous bone render such men as Lorenz ⁽¹²⁾, Menard ⁽¹³⁾, Monod ⁽¹⁴⁾, Malherbe ⁽¹⁵⁾, Lovett ⁽¹⁶⁾, and Noble Smith, vary in their views from cautious critics to judicial skeptics; but the majority are enthusiastic as to the immediate results and hopeful of their future.

Its effect on the clearing up of the external pachymeningitis or pressure paralysis of Potts' disease has been noted by all operators on large numbers of cases, and even humps of large size, of years' standing, and firm ankylosis have yielded to this operation with but a trifling mortality, variously stated, from 3 to 5 per cent.

In the acute stages of Potts' disease, recumbency is essential for the relief of the pain, night cries, external pachymeningitis, psoas contraction, etc.; and the Bradford ⁽¹⁷⁾ frame, a parallelogram of gas-pipe covered tacitly with twill cotton, so as to be the exact size of the child, affords a means of fixing it flat on its back, and is a method of shortening the period of recumbency by its thoroughness of fixation, and enables one to carry the recumbent patient into the fresh air or elsewhere.

In *hip disease* or *coxalgia*, attempts have been made to improve the prognosis by excision or erosion since aseptic methods came into use, and also the injections of antiseptics into the capsule of the joint. The former means have been discarded on account of the destruction of the epiphyses in a large number of children, resulting in shortened limbs and the liability of setting up general miliary tuberculosis or meningitis ⁽¹⁸⁾, and the latter ⁽¹⁹⁾, because it is now known that in the majority of cases the disease is not primarily synovial, but osseous, and such medicaments as iodoform and oil injected into the joint act simply as foreign bodies in the capsule.

The *sine qua non* for a cure in hip disease is starting the treatment at the earliest possible stage.

The treatment that yields by all odds the best results is the so called conservative treatment, and consists in a period of recumbency on the Bradford frame and inclined plane, with traction on the disabled limb by Buck's extension, in the line of the deformity, to over-

come muscular spasm; until all malposition, pain, and night cries subside. This period of recumbency is rarely required longer than a month or two. Then the traction splint of Sayre, Bradford, or C. F. Taylor⁽²²⁾, are worn with axillary crutches, and the high shoe of Thomas on the foot of the well leg, until muscular spasm has disappeared for six to twelve months. This usually requires from two to four years.

In tumor albus, or white swelling of the knee, traction from the knee down will, in beginning cases, overcome the pain, and flexion of muscular spasm, so characteristic of the disease; and a plaster-of-Paris cast, applied from the groin to the ankle as a means of fixation, with a high-soled shoe on the foot of the well leg and crutches⁽²³⁾, will effect a cure if the case is seen early.

By cure in the last two affections is meant not only disappearance of the symptoms of the disease, but the restoration of the function of the joint—i. e., the normal range of motion, and not ankylosis, which is generally supposed to be the best thing we can hope for.

Scoliosis or lateral curvature of the spine, for a long time the pons asinorum of surgeons, has made rapid progress in recent years in prognosis, owing to the faithful and systematic work of Bradford⁽²⁴⁾, Brackett⁽²⁵⁾, Weizel⁽²⁶⁾, Wirt⁽²⁷⁾, the Sayres⁽²⁸⁾, Young⁽²⁹⁾, the writer⁽³⁰⁾, and others of American orthopædic surgeons, and Hoffa⁽³¹⁾, Schede⁽³²⁾, Beely and Lorenz⁽³³⁾, abroad.

This disease, or affection rather, presents itself for treatment in two forms—the flexible and fixed lateral curves, although, with a watchful family physician, it should never get beyond the flexible or more easily treated form. As though it were Potts' disease, only too often is the non-removable plaster-of-Paris corset put on these cases of enfeebled musculature by the general practitioner, being an example of "all spines look alike to him," with naturally an unfavorable outcome, for, unlike Potts' disease, muscular exercise properly prescribed, and not rest, is what is needed.

Swedish movements, underskilled advice^(34,35) pulley weights, dumb bells, instruction in posture in sleeping, sitting, standing, etc.⁽³⁶⁾, and massage, will go a long way towards curing flexible cases; and to these means in fixed cases must be added some of the forcible correction machines of Bradford⁽³⁶⁾, Hoffa⁽³¹⁾, Schede⁽³²⁾, Lorenz, Beely⁽³³⁾, Zander, etc., to straighten the rigid lateral curve and rotation of the vertebræ and ribs.

My own views, and those of several others

in this country, in regard to severe fixed forms of this affection, are that some correcting brace or support should be employed in the interim, when a case is not exercising or being forcibly corrected, to hold on to the gain made.

The most recent forms of spinal supports for scoliosis are the paper, crinoline and glue jacket of Brackett and Weizel, made over a corrected plaster cast of the deformed trunk⁽²⁵⁾, and my own lateral curvature leverage brace of steel⁽²⁹⁾.

Club foot has ceased to be incurable when of the congenital form, since it has become a recognized duty of attending obstetricians to begin the correction of them by manipulation and skillful bandaging from the first week of the child's life, and not the "let-alone-until-old-enough" policy of by-gone days, let us hope.

There are, however, still many incompetent, as judged by the children and adults seen presenting this deformity; but, thanks to modern aseptic methods of operating and to Phelps⁽³⁷⁾ for showing us how to apply these methods to club-foot without doing violence to the mechanism or bony framework of the foot, even rigid and horribly distorted members can now be restored to normal.

My own experience teaches me that the chief essential to success in these cases after operation is the Bradford club foot shoe⁽⁴⁰⁾, to prevent recurrence and recontraction of the deformity, and it should be worn for a year after operation.

Goldthwait⁽³⁸⁾ has suggested a plan for greatly improving *paralytic deformities of the feet and joints* by the transplantation of non-paralytic tendons and muscles, or portions of them, to the insertion of the paralyzed tendons, and thus have a strong muscle do the work of its weak brother.

Much intelligence, skill and knowledge of the anatomy and physiology of the muscles and joints is essential to success, and the prognosis also depends largely upon the damage done in these cases by the causative anterior poliomyelitis.

One of the first requisites for all paralytic cases is a suitable brace, which will maintain the limb in its normal position and act as an adjuvant to the physiologically weak part.

Whitman's⁽⁴¹⁾, Lovett's⁽⁴²⁾ and Dane's⁽⁴³⁾ monographs on *flat foot* are classics, and depend chiefly on restoring the dislocation, under ether, if necessary, followed up later by faithfully carried out manipulation, instruction in how to bear the body weight in standing and walking, and a suitable support to the plantar arch until cure is attained.

The linear osteotomy above the knee of MacEwen and MacCormac⁽⁴⁾ for *knock-knee*, and the osteoclasis with Rizzoli's⁽⁴⁾ or Grattan's osteoclast, or preferably the linear osteotomy in lateral and *anterior bow-legs*, leave nothing further to be desired for curing these affections. Cuneiform osteotomy is rarely required.

Many of these cases are now operated on in my out-patient clinic, and sent home with straight legs in plaster-of-Paris the day they present themselves for treatment; they return in a month or six weeks to have the plaster removed from straight strong legs. Where a case of knock-knee or bow-legs does not yield with a perceptible spring under the surgeon's hand, in a young rachitic child, I prefer operating to using recumbency and manipulation or braces.

Perhaps the most wonderful achievement of orthopædic surgery within the last year or two has been the work of Lorenz and Hoffa on *congenital dislocation of the hip*, the reduction of which was an impossibility until they pointed out the way and explained the pathological difficulty that the stretched capsule with its hour-glass contraction beyond the femoral head offered. Bradford's paper, read at the Congress of American Physicians and Surgeons in Washington in May, 1897, covers Lorenz' bloodless method and Hoffa's operative method of reduction, and I must refer those who are interested and did not hear that paper, to the Transactions of that Congress, as time does not permit me to go further into details⁽⁴⁷⁾.

Having thus briefly and hurriedly considered the modern methods which render the prognosis of deformity extremely favorable, one proviso is essential for all of these affections—namely, early diagnosis with persistent treatment. The earlier treatment is instituted of a vigorous and thorough character, the better the prognosis.

The unfavorable means to a good prognosis, is the expression: "Let the child alone; it will outgrow it," as practically all deformities grow progressively worse.

Much incurable deformity is perhaps caused by lack of thorough examination of children who invariably ought to be stripped and thoroughly gone over, no matter how trifling the medical or surgical trouble may seem.

In Potts' disease, the time for treatment which cannot be regained, is before the knuckle in the back appears; so that if a child has a rigid carriage and persistent thoracic or abdominal pain (called by the unwise idiopathic), look to the spine and see if the trouble is not there.

In tubercular hip and knee disease, rheumatism, which is rarely monarticular in children, is blamed for the trouble until extensive bone destruction points out the true nature of the disease, of course, too late to restore normal joint motion.

Again, has any one ever read a monograph or seen a written account of the pathology of "growing-pains," so called for want of a better diagnosis?

Finally, a most potent source of the production of irreparable deformity, is the tendency of some of the profession of referring orthopædic cases to instrument-makers, who are physiologically, anatomically and pathologically incompetent, and simply are higher order of blacksmiths. One who knowingly does such an act, does not shift the responsibility of an irksome tedious case on the poor ignorant instrument-maker, but the responsibility is more than ever on the physician, no matter how poor the case may be, with free orthopædic hospitals and dispensaries now within reach. It is as rational to refer a case of joint disease to an instrument-maker, as to refer a case of retinal hemorrhage to an optician to fit glasses, and not to the skilled oculist not to fit glasses.

In conclusion, I wish to express my deep appreciation for the courtesy of an invitation to read a paper before your Society, and more especially, as a Virginian by birth, I am permitted to return, hear and profit by the papers here presented, and be in the midst of the fraternity of State and profession of my motherland.

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CLINICAL EXPERIENCE IN THE MANAGEMENT OF TUBERCULOUS SINUSES, ABSCESSES, AND FOCI.*

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My friend and your President, Dr. Harvie, was good enough to invite me many months ago to be present on this occasion, and to read a paper. I ought not, therefore, to come with an apology, but the length of time which you gave me is an apology, for the reason that my disposition is to procrastinate. I feel highly complimented because of the privilege of addressing a Society so well known, and in a State which takes such high rank in the world of science and known for its unbounded hospitality.

As a rule, subjects presented to medical societies are hackneyed, and I fear that I shall not depart from so time-honored a rule. One hesitates to inflict you with a long dissertation. The elaboration of a paper, therefore, must be left for the time of publication, and all dry

details must be omitted in presenting it for discussion.

I have chosen the above title because I have devoted many years to the management of tuberculous bone lesions, and because I know that there is much yet to be learned. We are so in the habit of passing a tuberculous sinus by as "a running sore"—one that needs no treatment—that we seem to forget how serious a thing it is to the patient himself. While it is true that tuberculous sinuses seldom contain many bacilli, yet they do occasionally contain a certain number, and it should be our aim to remove all possible sources of infection. After all, therefore, I have nothing positive to offer you on this occasion; still I feel that I shall be able to suggest a discussion which may be profitable.

Men in small towns and in small cities often get much better results than we who live in the atmosphere of large hospitals. The hospital itself seems to retard healing, while patients who can live in the open air, can sleep in well ventilated rooms, and breathe uncontaminated oxygen, are placed under the best conditions for the destruction of pestiferous germs.

The terms in my title may be easily defined. In fact, a definition is hardly necessary. By tuberculous sinuses we mean sinuses that lead from tuberculous foci. Though the sinuses themselves may not be tuberculous, the internal lining is very often infected throughout, and one is justifiable, therefore, in employing the term tuberculous by way of discrimination. By abscesses I mean cold abscesses, as is generally understood—residual abscesses—collections of pus that come from broken-down tuberculous tissue. The focus itself may be in the bone or may be in the soft parts; may be in the ligamentous structure about a joint—for example, the capsular ligament. Be it where it may, our aim should be to effect its removal or to render it innocuous.

The etiology and pathology need no special discussion. We are all agreed upon the nature of tuberculous disease. We all agree that the bacillus is a prime mover in the destruction of tissue. It gets in from without, travels from station to station, colonizing in points where it can do the most damage. We often have a mixed infection when the abscesses get near the surface. So long as the abscess is not exposed to the air, it is regarded as harmless—it is harmless so far as sepsis is concerned, but not harmless so far as the dissemination of tuberculosis is concerned.

The recognized methods in the management

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of abscesses are:—For the abscesses, immediate evacuation (I am speaking now from the standpoint of the general surgeon) and removal of all infected material; for the sinuses, curettage, injection of iodoform in emulsion, and subsequent dressings, the aim being to keep the parts sterile; for the bone disease, evidement or excision—the section to extend far beyond the area affected. We are told in the text-books that such procedures are recommended. We are not always told what the results are. We attempt to follow instructions, fail to get good results, and fancy our technic is at fault.

The general practitioner prefers to leave the surgical aspect of the case to take care of itself, and relies upon constitutional remedies, such as cod-liver oil, iron, malt, milk, hygiene, alteratives, etc. He dislikes to meet the situation squarely in the face, believes somehow that time, hygiene and luck will help out, and he is apt to procrastinate or to put off the evil day.

The orthopedic surgeon occupies a ground midway between the general practitioner and general surgeon. His object is to protect the joint and the bone diseased; he feels that rest promotes resolution in the diseased bone or joint; he feels that if he can secure the needed rest to the joint, the sinuses and abscesses and foci will take care of themselves. He does not look upon an abscess as a thing to be attacked at once, but he is willing to let the abscess remain for weeks and months, sometimes years. He believes that the pus will become inspissated, and that the cheesy, or caseous, mass will remain. If, therefore, the abscess is not in the way of his brace or protection-apparatus, it is not interfered with. If the pus gets near the surface and pleads for an exit, he allows nature to make the exit. He still keeps up protection and a good position of the limb. At the same time, the more advanced orthopedic surgeon will lay great stress upon hygiene and upon climatic influences, his aim being to employ such apparatus as will enable the patient to be moved from place to place. He constructs his apparatus so that it will enable the patient to live at remote distances from large cities, in health resorts in Colorado, the Adirondacks, Arizona, the Carolinas, and by the sea. His aim is to maintain protection, and, at the same time, get the very best air possible. I confess that I am led sometimes to admire a procedure of this kind. In private practice I know good results follow. In hospital practice I know good results do not often follow. The abscesses open and become septic, the patient hectic—he “runs

down.” The discharge continues and continues, and finally amyloid changes in the liver and kidneys develop, or profound exhaustion supervenes. Sometimes tuberculous meningitis develops. As a whole, therefore, the general results of the mechanical orthopedist are better than those of the general surgeon. I can speak advisedly on this point, because I have tried both and I have seen each employed by skilled men. The orthopedic surgeon who combines the judicious use of the knife with mechanical appliances ought to get the very best results. I have attempted, however, to gain some clinical experience, and I propose now to narrate briefly a few cases which will illustrate my meaning.

CASE I.—A boy, eight years of age, with disease of the hip, lasting two or three years, had two or three sinuses of long standing about the hip. These were operated on by three curettings—August 3, September 4, and December 24, 1896. On every occasion I attempted to cut away the entire track of the sinus with a sharp curette, and, in addition thereto, used scissors and forceps, extending my field of operation to the foci of disease, washing out thoroughly with peroxide of hydrogen, mopping out the track thus freshened with iodoformized gauze, binding a sterile pad over the opening, without tenting. Shortly after the last procedure the sinuses closed, and have remained closed to the present date.

CASE II.—A girl, five years of age, had tubercular disease of the os calcis and the cuboid. On September 21, 1897, I made a free incision through the opening which had already formed, extended my incision down to the bone, cut away all but dense tissue—did, in other words, a complete evidement of the greater portions of the os calcis and the cuboid. I rendered the parts, as I thought, sterile, and succeeded in keeping them sterile, was careful about the subsequent dressing, and at the end of three months everything had healed without any infection. The child was able to walk and has continued walking with a useful and in fact a perfect foot. No lameness even remains.

CASE III.—A girl, ten years of age, four or five years ago, had a sinus from an exceedingly chronic hip-disease. It would very nearly close for a while and then open, and had continued this way for years. We sent her to the country, where she spent an entire summer, but did not get complete relief. In the fall the sinus persisted, and in 1897 I began a series of curettings, and, after three or four operations with two or three months' interval, I failed to get closure; was compelled subse-

quently to excise the head of the bone. In spite of all the care I could possibly secure to avoid infection, the sinuses persisted, and to this date she has a small weeping sinus, but her health is very much improved and a cure I feel confident is near at hand.

CASE IV.—The following is a good illustration of what perseverance will do in a desperate case. A boy, L. G., at the time of his admission to the hospital was five or six years of age. He had suffered from a tuberculous hip with abscess, which abscess was aspirated on two or three occasions; it finally was opened, but became septic after a while and the discharge continued. During the summer he was sent into the country for three months. Returned to the hospital in fair shape, yet still quite thin. The discharge rather profuse. After one or two failures at curetting, I removed the head of the bone and found the acetabulum broken down in places. The wounds healed in a reasonable time but sinuses remained. This occupied the whole winter, and in the following summer he was again sent to the country, in the Berkshire Hills. His case was so desperate at the time that we were obliged to keep him in a wheeled cart and dress the sinuses every day. Under the invigorating air he improved wonderfully, and returned in the fall with sinuses still open. These were curetted again, but he lost flesh after returning to the hospital. We then had an opportunity of sending him into the country for the winter. He began to improve forthwith. On two or three occasions I operated upon him in the country hospital, opening abscesses, cleaning out sinuses, etc. At this time his liver was enlarged and extended fully a hand's breadth below the borders of the free ribs. We decided to leave him in the country for a year. During this time improvement progressed without interruption, sinuses finally closed, his limb retained its good position, and during the following year he was returned to the hospital for convalescence. That meant I was anxious to dispense with the apparatus. There was no disposition of the limb to become deformed. The sinuses have re-opened once or twice, but promptly closed on being aseptically cleansed, and now for at least a year he has been perfectly well, free from apparatus, and living at home. The liver has also receded to its normal size. Resolution has followed the closure of the sinuses. His urine shows a normal reaction.

CASE V.—A boy, seven years of age, admitted to the hospital during the fall of 1897. There was an abscess about the size of a split coconut, occupying the middle two-thirds of the

thigh, anterior aspect. This came from a tubercular hip. On the 8th of December, same year, he was aspirated and only $1\frac{1}{2}$ ounces of thick pus removed, the needle being plugged by flocculi. On withdrawing the needle there was some leakage, but the puncture soon closed. On December 22d, about two weeks later, under nitrous oxide I made a half-inch incision into the sac, which incision allowed me to squeeze out a large cheesy mass and very little pus. Care was taken to avoid the admission of air, the sac was not washed out, the edges of the wound were brought together, collodion painted thereover, and a sterile pad of gauze over all this held in place by adhesive strips. There was no reaction. On the 15th of January, 1898, the abscess had apparently refilled. It was aspirated at this time and $1\frac{1}{2}$ ounces of thin serum with pus withdrawn, immediately after which the parts were strapped. The 12th of February, it was opened as before. On the 30th of March, aspirated again. On the 16th of April it was noted that there had been no refilling, and that the wound was firmly healed. Even after this section on the 4th of May, 1898, the lower part of the sac had partially refilled and was aspirated. At the last note, July 20th, there was no sign of fluid, walls were adherent, and patient was discharged. He has been seen once or twice in the Out-Patient Department since that time, and all goes well. It is hardly necessary to say that protection apparatus has been continued all the while and that the limb is in excellent position.

CASE VI.—A girl, twelve years of age, was in the hospital in 1895, when an abscess was opened by free incision, thoroughly cleansed, and in the course of two or three months healed. She was then discharged, and the wound remained firm until the early part of February, 1898, when in the former site an abscess appeared, and was aspirated on the 17th, but with unsatisfactory findings. A few days later, under ether, a free incision was made four inches in length, and about six ounces of curdy pus evacuated. The abscess sac was thick, but it was so thoroughly dissected that scarcely any remained. What did remain was rubbed over well with iodoformized gauze, the parts thoroughly dried, and the wounds sutured with sterilized catgut without drainage. Plaster-of-Paris over a full sterile dressing was employed to secure immobilization, and on April 11th it was noted that the abscess had not reappeared, and that the wound was thoroughly healed. This note was confirmed again in July. At present there has been no return.

CASE VII.—A boy, A. D., three and a half

years of age, admitted to the hospital December 22, 1896, suffering from hip-disease with a large abscess. After getting him fitted with a splint, in order that the joint might the better be protected, on the 20th of following month the abscess, which had increased in size, was aspirated. The quantity of pus removed was about one-half what the sac contained. One month, later the aspiration was again resorted to with negative results. There was a thick, cheesy mass, parts of which plugged the needle, and prevented the removal of any pus. There were no acute symptoms, and the abscess itself did not call for active interference. The splint afforded good protection, and it was decided not to operate. Nearly a month later, aspiration was attempted again, and about two ounces of pus withdrawn. The parts were well strapped with adhesive plaster, finally bandaged, and it was a month later when it was found that the sac had partially refilled; aspirated again, and four ounces of thin, darkish pus, tinged with blood, was removed. Two weeks later, aspirated again on account of slight refilling, and again two weeks later subjected to the same treatment. More aspirations were made during the next eight months, to complete the cure. The last note was March 12, 1898. Since then the child has been seen in the Out-Patient Department. No sinus, no abscess; limb in good position.

The case just reported is a little different from the ordinary hospital cases, in that three or four aspirations are all that are necessary. In private practice, I find it necessary to aspirate eight or ten times in certain cases, and the results are fortunately better than in hospital practice. I attempted to present tables showing results, but it is difficult to make sharp distinctions. For instance: I have twelve or fifteen where aspiration only has been employed with perfect result; then, again, there are about the same number where incision has been employed subsequent to aspirations. Furthermore, where aspiration and incision have failed, I have resorted to excision, and, in one or two instances, amputation. At the risk of being prolix, I must mention one or two cases that have been to me most instructive.

CASE VIII.—In private practice, a boy four years of age, at the time I first saw him in November, 1891, had Potts' disease of the spine, mid and lower dorsal; apparatus was promptly fitted and worn continuously. In August, 1894, a psoas abscess was first discovered, pretty completely filling the left iliac fossa. On the 6th, aspiration was done, and it was not until the 15th of October that it was found necessary

to aspirate again. All went well until the 15th of April, 1895, when, with the assistance of a nurse and the family physician, I inserted the needle, but got very little fluid. After withdrawing it, within a minute or two, a superficial tumor appeared under the skin and enlarged rapidly, so that it was quite evident that a branch of the circumflex artery had been injured. Under pressure, the bleeding was controlled, but, after a consultation, it was decided to operate within the next two or three days. On the 7th of April, under ether, I made an incision over the site of puncture, extending down through the superficial muscular tissues, and encountered a large blood-clot about the size of my hand; this was removed carefully and the parts rendered sterile. The incision was carried through to the abscess itself, and at least a pint of broken-down pus was removed. The cavity was quite large, extending up under the ribs. I attempted to tear away with my finger much of the lining membrane, put a small drainage-tube in, after thoroughly cleansing, and sewed up part of the wound. From that time, April 7, 1895, to the present (with the exception of a period of four months, when it was closed), over three years, it has been necessary to cleanse out the sinus two or three times a week—at times to insert a probe with packing, to break up old bands and freshen the track. About a year ago, the case was quite desperate, and I gave a prognosis which was construed as hopeless. Taking the patient from the seashore to the interior, he improved wonderfully. This summer he is in the Adirondacks, and is on the high road to recovery. The little patient still wears a large tube six inches in length, and is encased in a solid plaster-of-Paris jacket. His lungs are in good condition; no signs of amyloid change.

CASE IX.—A young lady, twenty-one years of age, whom I first saw in November, 1892, had tuberculous disease of the tarsus, right side. She had suffered already for about two years. I saw her at this time in consultation, and continued to see her occasionally up to February, 1896. In this interval, she had been operated on two or three times, but it was impossible to close the sinus. At the end of this time, she was operated upon by an eminent surgeon of New York, whom I had the pleasure of assisting. The operation seemed to be very thorough, and it was thought that all bone possibly diseased was removed. Still the sinus persisted, and on the 22d of June, 1896, I did an amputation at the junction of the middle and lower third of leg. Quite

recently, during the present summer, I have seen the patient. She gets about very well with an artificial foot. There has been no further trouble. General condition is very good.

In going over the histories of my cases, I find very many illustrating points in the management, but I shall refrain from reporting the same, believing that I have already occupied your time sufficiently long.

A number of years ago at the hospital, we evacuated abscesses for an entire year, injecting iodoform in oil or glycerine, and failed to get results sufficiently satisfactory to warrant us in continuing the practice. We were all disappointed. Then for two or three years we aspirated without cleansing the sac, but simply strapping immediately after aspiration. At least 50 per cent. were cured after a few aspirations; a number were relieved after two or three aspirations. It has become, therefore, the practice of the hospital to aspirate whenever the abscess appears, but to *inject nothing* into the sac. In my private practice, I invariably aspirate and assure my patients that a few repetitions will effect a cure. It is seldom that I am disappointed. Occasionally, the puncture leaks a little, becomes enlarged by means of the pressure within the sac, and then I simply dress the parts aseptically, and closure soon follows.

While I come in contact from time to time with surgeons who speak slightly of aspiration, and who think that no good results follow, I have no hesitation in making this assertion. It is one of the best means within my knowledge of treating the ordinary cold abscess of tuberculous disease. I have had no reason for many years to change this conviction. It is a simple process, does not require an anæsthetic, the skin can be frozen with ethyl chloride, and the operation is practically painless. If one fails to get pus, the attempt can be made later, but for the general practitioner I know nothing that is better suited to his wants if he encounters many abscesses like those under discussion.

By employing ethyl chloride as a local anæsthetic, or laughing gas for simple narcosis, a small opening may be made over most any abscess sac, the contents evacuated, and the parts hermetically sealed. The employment of an ice-bag immediately afterward will allay any inflammatory conditions that may threaten. I have been very much pleased with this method.

With regard to sinuses, I am convinced that

a thorough dissection of the lining membrane is necessary to effect a cure. Of course, there are instances where it is impossible; then a curette may be employed, except in the abdominal cavity. For thorough dissection or thorough curettage, I simply flush out well with sterile water, then mop the parts well with a pad of iodoform on a director. The next step is to wash out thoroughly with the peroxide of hydrogen, and finally dry the track. I seldom employ any tenting or tubes. It is just as well, if one is satisfied that the parts are thoroughly cleansed, to employ a sterile pad of gauze, and take chances on any discharge. In resorting to this method, where such focus is found, I invariably attempt its removal. It is often not necessary to do an excision, but merely to do a thorough evidement or cutting away of the soft bone until the hard bone is encountered. Let this be the bottom of the sinus or track. After a thorough operation of this kind, I usually employ a plaster-of-Paris dressing for fixation. The parts are not disturbed for a while, sometimes a week or ten days. I usually wait for some indication, such as a rise of temperature or staining of the dressing. I have long since satisfied myself that the use of peroxide of hydrogen for sinuses is futile. The injection of bichloride of mercury or any chemicals is practically useless. We must bear in mind always that we have tuberculous tissue to deal with, and if possible this must be removed.

Where the foci are numerous and close together, as in the head and neck and trochanter of the femur, nothing short of a radical excision will suffice. It must be borne in mind, however, that these foci must be recognized or one must be convinced that they exist before resorting to operation on a child in good condition. Early incisions, while they yield more brilliant results, are not looked upon with favor by the majority of surgeons—at least by the orthopædic surgeons, and we leave these operations until a later period. Just when to interfere of course is a difficult question to decide. By attention to sinuses, to small foci, and to abscesses, above all things, by protection to the joint or bone diseased, excision will seldom become necessary. Where these operations fail, and where the patient is losing ground, it is best not to wait until too much ground is lost, but to interfere promptly, and let the patient have the benefit of the doubt.

16 Park Avenue.

REMOVAL OF FOREIGN BODIES FROM THE EYE WITH A MAGNET, AND REPORT OF TWO CASES IN POINT.*

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As a means of saving many eyes that would otherwise be irretrievably lost by the entrance of a foreign body, the magnet plays an important part. Its use is nothing new, and I make no claim to presenting anything specially original or unusual in my few remarks in regard to it. Old as its application is, I doubt if it is made use of as often or as early in certain cases as it might be. The imbedding of iron and steel particles in the cornea is so common that every physician has to deal with such cases, and sometimes the foreign body is so small or so deeply buried that it is very difficult to remove it.

In the last two weeks, I had a case of an almost invisible particle of iron in the cornea, which had been there for five or six days, and had caused considerable suffering to the patient. Repeated and fruitless attempts at removals had only resulted in abrading the cornea and increasing the irritation. A physician brought the case to me, saying that he could not find any foreign body or any cause for the eye trouble unless it was due to the above-mentioned interference. I could not see the particle of iron without a magnifying-glass, but when located it was readily removed with the magnet.

I have seen intractable ulceration of the cornea set up by the scraping to which it is often subjected in the effort to remove foreign bodies. Hence, if this can be avoided, even by those most skillful in doing such work, it is an advantage to the patient.

Particles of grit, emery, cinders, etc., must of necessity be removed in this way, as the magnet would have no influence on them; but in my experience the majority of injuries of the cornea, sclera, and inner structures of the eye are by chips from cutting tools, machinery, etc., and are therefore removable by the magnet, thus avoiding the damage so often inflicted by other instruments.

I beg to submit the style of magnet I use. I had it made for me something over twenty years ago, and have always found it admirably adapted to its purposes. Some weeks ago, the outer covering became loose, and I took it to

New York on my way North to have it repaired at one of the most prominent instrument houses in the country, and yet no one there had ever seen a magnet exactly like it, being somewhat more powerful, as they told me, than any they had, or any in common use that they knew of. Being asked where I got it, I could not tell them, as I had entirely forgotten who made it for me. It can be used with a street current, a storage battery, or a galvanic battery. I have never tested its exact power, but I have raised heavy cold chisels, a hatchet, and such other things with its points. It has only three or four attachments; one for external use, and three for passing into the interior of the eye into the aqueous or vitreous chamber. The shorter the point, the more powerful the traction. This short attachment, flat on the end, is for foreign bodies in the cornea; the longer and pointed ones for the interior of the eye. The current is turned off and on by this current-breaker.

The two following cases exemplify its uses:

CASE I.—Geo. H. R. J., employed in the C. and O. shops, was brought to my office on February 4th, 1898, by Dr. George Ross. He had been struck in the left eye by a piece of iron, which had ruptured the cornea from its centre downwards and outwards to the sclero-corneal border and a little beyond, without apparently invading the ciliary region. The anterior chamber was abolished, and vitreous protruded from the lower edge of the wound, showing the hyaloid membrane, and probably the suspensory ligament of the lens had been ruptured. There were no certain indications that a foreign body was inside the eye, and the patient was positive that his injury was caused by a large fragment of iron that struck him and fell to the ground. As the injury could have been caused in this way, and as a satisfactory examination of the interior of the eye was impossible, I accepted his statement and dressed the wounds antiseptically to await developments. As day after day, however, passed without any sign of healing about the corneal wound, I became satisfied there was a foreign body in the eye, and after two weeks a yellowish deposit like an infiltration, stained with rust, made its appearance just inside the corneal wound, this assurance became a certainty. I therefore enlarged the wound, which had then begun to heal at the corners, and introduced the point of the magnet. When I first turned on the current, there was no result, but in a few seconds I felt the click of the metal against the point. Traction on the magnet gave him great pain, and threatened to turn the eye inside out. The

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piece of iron had passed down and under the lens, and lodged partly behind it; hence, the difficulty of removing it. By careful and gradual manipulation, I succeeded, however, in dislodging it, and drew it out of the eye, leaving the latter somewhat disfigured and vision practically abolished as a result of the long-continued inflammatory reaction, with deposition of inflammatory exudation and opacification of the lens. This was, however, better than the removal of the eye.

The foreign body was 9 mm. long and 3 mm. broad, as you can see.

CASE II.—Mr. I. A. Taylor, of North Carolina, came to see me on February 24, 1898. The previous day, whilst at work in a machine shop cutting with a hammer and chisel, a piece flew from the latter and wounded the eye, giving him intense pain, which continued to the time I saw him. Examination showed an almost invisible wound of the cornea, which had closed; the anterior chamber was filled with aqueous humor, the iris was cloudy and discolored, and the pupil contracted. A dark spot in the iris just below the pupil proved to be the piece of steel. It had passed through the cornea lengthwise like a needle, and had lodged in the iris, setting up what seemed to be a traumatic iritis, with the characteristic pain of the latter. I charged the magnet, and found that, if I approached the point towards the cornea without touching the latter, the iris, and apparently the lens also, would be drawn forwards towards the back of the cornea. As the wound in the latter was too small to remove the foreign body and had already closed, I made an incision at the lower edge as if for a downward iridectomy. Through this I passed the magnet point, and drew out the piece of steel, the iris following it through the wound. This was returned to its place, and a mydriatic applied. In thirty-six hours, the pupil was well dilated, except at one point. There was a faint cloud at the posterior pole of the lens, but I could discover no rupture of the anterior capsule, although the iris had been apparently pinned down to the lens as if with a tack. He went home with a good eye, and I have since heard that he had no trouble with it.

The foreign body was 3 mm. long and 1 mm. broad.

REMARKS.—These two cases teach the same lesson in a different way. The first illustrates the danger of delay in the use of the magnet in suitable cases. No other mode of interference could have availed in the least, and no treatment could possibly be beneficial without it. Had I used the magnet without regard to

the positive assertion of the patient, or the misleading appearance of the eye, if only as a means of diagnosis, I would have discovered the presence of the piece of steel at once, and saved not only the eyeball but in all probability the eyesight as well. No possible harm to the eye could have come from its use, even if introduced through the wound into the eye, if proper asepsis had been preserved, and much good would have resulted.

The second case shows the advantage of a prompt application of the magnet, the removal of the foreign body before any great damage had been done, and the consequent rapid healing with perfect restoration of vision. Of course, there have been and will be cases where an eye may be lost from the entrance of a foreign body of this kind, even when promptly removed by the magnet, because of the introduction of micro-organisms with the foreign body and the development of septic trouble, but these are exceptional cases. We must bear in mind that without some such means as the magnet of removing the foreign body, the eye must necessarily be lost, and on account of the danger of sympathetic trouble to the other eye, has to be removed. Hence, almost any interference with a chance of removing the offending body is justifiable and preferable to removing the eye at once, as enucleation can be done as a last resort.

200 E. Franklin Street.

RELATION OF DISEASES OF THE FEMALE GENERATIVE ORGANS TO NERVOUS AND MENTAL AFFECTIONS.*

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Officer d'Académie.

The essayist's attention has been arrested by several articles from the pens of prominent neurologists, which are contrary to the facts regarding the "Relation of the Nervous System to Diseases of the Female Pelvic Organs in Women;" and he attended the meeting of the American Medical Association at Denver, almost expressly to hear the discussion of this subject by the two sections of Neurology and Gynecology, which met by agreement for its discussion. He was called upon to take the place of one of the absent members appointed to read a paper on the gynecic side. His lack of preparation and imperfect presentation of

*Original abstract of a paper read at the annual meeting of the American Association of Obstetricians and Gynecologists, at Pittsburg, September 21, 1898.

his views persuaded him to prepare the present paper.

My consideration of the subject will be limited to the great neuroses of neurasthenia and hysteria, and insanity. In order that I may not be misunderstood as to the premises from which I start, I will say that I am totally opposed to any operative procedure, except where pathologic conditions are demonstrable. I have no confidence in operations upon healthy organs, for the cure of any neurotic condition, and believe that such are now generally condemned by the profession.

One of the distinguished neurologists at Denver stated that "The disorders of her pelvic organs have no more to do with her nervous and less to do with her psychoses and neuroses than most of her other organs."

Another, in this same discussion, declared that "All idea of curing neurasthenia or hysteria by operations upon the pelvic organs must be absolutely abandoned." And in another place he says "The insanities are due to local organic disease. Facts are rapidly accumulating to show that the insanities are due to disease of the neuron, structural and functional, the result of various poisons circulating in the blood. Surely it would be just as sensible to claim a cure of insanity by trimming the toenails as to claim a cure by pelvic operations." And this by one of the leading neurologists in this country.

I look upon the position taken by some of our colleagues in neurology, that there is no relation of cause and effect between the various neuroses and psychoses and disease of the female pelvic organs, as being as extreme and condemnatory as would the advocacy of the removal of normal organs in the female pelvis, for the cure of nervous diseases, by some ill-advised persons calling themselves gynecologists.

In operating upon diseased conditions of the pelvis, we do not expect to remove the symptoms of the neuroses, but only those symptoms properly belonging to the pelvic disease itself; but strange and disappointing as it may be to some of our critics, when those pathologic pelvic conditions are removed or corrected, the nervous system relieved from the source of unceasing irritation, gradually returns to its normal poise, and the patient is cured of her neuroses as well as her pelvic disease.

Our neurologists are proclaiming the same doctrine as did Professor Clifford Allbutt in his Gullstonian lectures before the Royal College of Physicians in 1892 (but from which he has since recanted almost *in toto*), that there are a

number of uterine and pelvic disorders which are but the manifestations of neuroses. In point of fact, the statement needs to be made exactly the reverse, and so frequently is this met with in gynecological practice, that the gynecologists have become expert in their diagnosis and treatment.

The fact of the matter is, that disease of the pelvic organs and affections of the nervous system are so frequently concomitant and interdependent, that the neurologist is, by far, less likely to give due and proper consideration to the pelvic troubles than the gynecologist to the neuroses, because of his lack of practice and natural repugnance to propose and pursue vaginal examinations upon the patients that come to him, whereas in the routine questions that form the history taken of every important case by the gynecologist, the neurotic and psychotic conditions present themselves and are given the consideration which their importance demands.

The study of and acquaintance with the great neuroses and psychoses is forced upon the gynecologist by the very nature of his study and treatment, whereas the patient going to the neurologist, does not expect, and in most cases would refuse, a pelvic examination at his hands. In point of fact, the neurologist sees but a small percentage of the operative cases, and their views on the whole subject are prejudiced by this exceptional class as well as by their imperfect and limited knowledge of the special department of the diseases of women.

I will venture to say, there is not a prominent gynecologist but has seen numbers of women having diseased pelvic organs, and with pronounced symptoms, who have come to him after having had the rest cure and various other treatments, and were restored to health by the cure of the pelvic lesions by operation. The position taken by many neurologists toward operations upon the sexual organs of women is unfortunate for this class of cases, and it is well to remind them, that remarks prejudicial to operative treatment, act as suggestion upon neurasthenic and hysterical patients, just as surely and detrimentally as does the unwarranted pelvic examinations at the hands of the gynecologist.

Hodge has proven that neurasthenia results from a loss of substance of the nucleus and cell protoplasm, expressive of wear and tear, that is the invariable result of fatigue. His experiments were made on animals and birds, and were conducted in a manner which left no doubt as to their accuracy. As a result of any continued reflex action, therefore, which denies

to the neuron time for recuperation, we have produced a pathological condition which is seen in the shrinkage of the nucleus and cell substance, which robs the neuron of its functional ability to transmit the normal nerve influence and gives rise to the chronic fatigue symptoms of which all true neurasthenics complain, and these symptoms apply to every part of the system—muscular, the special senses, digestive, and derangement of the nutritive interchange.

The neurasthenic unit is a nerve-force quantity. It may be a quantity in excess of the normal, or a quantity less than the normal. It may be nerve force out of balance, or nerve force delicately poised. It may be perverted nerve force. It may be nerve force overpowered by inhibition, or it may be controlled by a condition corresponding to a short-circuited electric cell, in which all inhibitory power is lost. The protean manifestations of the neurasthenic state are accounted for, and only accounted for by a condition of varying values. The neuron's molecular relation to the electric cell has not been determined, neither has the nucleus and cell protoplasmic relation to the nerve force current been made out; but the neurasthenic condition doubtless travels in the direction of least resistance. Nervous demand has the power of attracting, in some way, nervous supply, but instead of the nerve centers supplying the demand with normal nerve force in a regular way, the centers supply a pathological nerve force, or what amounts to the same thing, nerve force at irregular intervals.

With the conceded ground, that the pathological condition is brought about by the influence of a too unrelaxed subjection of the nerve cell and protoplasm to functional activity, let the source of this activity be what it may, then the source of this irritation must be corrected.

If neurasthenia is the result of a change in the nerve cell, due to too great exercise of its functional activity, then disease of the pelvic organs furnishes the most frequent source of this irritation, and as the primal cause must be corrected if a cure is to be effected.

The rest-cure, tonics, and liberal diet may improve the condition of the neurasthenic suffering from pelvic disorder, but her condition becomes as bad and often worse than before, when she is removed from the favorable environment and is again subject to the care and labor of daily life.

There is no time in a woman's life, from puberty to old age, that we do not have presented before us the intimate physiological

relation between her generative organs and several nervous systems, and through these to every organ and part of her body. The acme of adolescence is an example of the influence of these organs upon the skin. The reflex connection between the mammary gland and these organs, during the menstrual period, can only be accounted for through the nervous system; and by what other influence are we to account for the malaise, slight nausea, headache, disturbed vision, flashes of heat, constipation or diarrhoea, localized areas of hyperaesthesia, and mild forms of hallucination, all of which are sometimes and in some patients constantly present during the catamenia—making their appearance with its onset, and subsiding and disappearing with its close.

The intimate connection of the cortex with the ovary is shown by the fact that cortical disease arrests menstruation. The physiological relations we are intimately acquainted with, and if present, physiologically, I wonder who is going to convince us that, in the presence of pathological changes, the influence of these organs upon the nervous system will not be more pronounced; as, for example, the occurrence of various shades of optic neuritis and retinal irritation, in connection with suppression or irregularity of the catamenia, slight epileptiform seizure of the facial muscles, laryngeal neuralgia, functional aphonia, tinnitus aurium and vertigo.

As a consequence of menstrual irregularities, we find painful irritation of the dorsal and lumbar spinal zones, functional irregularity of the cardiac rhythm, gastralgia, slight icteric attacks, irritation of the bladder with frequent micturition, varieties of headache, and severe hemicrania. All these symptoms can only be accounted for as reflex vaso-dilating or vaso-contracting phenomena, the result of irritation in the uterus or ovaries, arising from imperfectly performed physiological functions. We have all seen the acute disturbance of the menstrual function as a result of mental or physical shock, cold, heat, or great bodily fatigue. The spasmodic form of dysmenorrhoea, which at one time largely occupied the attention of the profession, and which gave rise to as many forms of treatment as there were students of its phenomena, was readily explained and controlled after Dujardin-Beaumetz had shown that it was caused by anemic and toxemic blood.

There is perfect truth in the claim of the neurologists that ill-health in women is frequently the cause of her uterine troubles; but it is even more true that the various diseases

of the uterus and its adnexa are the exciting cause of ill-health that frequently makes its appearance throughout her whole system.

The exact knowledge that we have of the physiological action compels a belief that these organs form the most prominent links in the chain of woman's health of both mind and body. It is unreasonable and unscientific to style a woman neurotic, hysterical, hypochondriacal, and treat her as such, ignoring the while local disease of her pelvic viscera, which aggravates and accentuates, and in most instances is the exciting cause of these neuroses; and, apart from these direct results, there are those indirect evidences that follow upon interference with the secreting functions of the liver and kidneys and with the metabolic action of the spleen. I reiterate that it is a blind injustice to deliberately and complacently ignore the influence of local disease as a causative agent of morbid changes in her central nervous system.

In those cases where there are gross pathological changes, as, for instance, in those suffering with marked displacement of the uterus, with adhesion, extensive laceration of the perineum and cervix, the latter everted, completely eroded and ulcerated, œdematous and tumified ovaries, with multiple fibroid growths in the uterine walls—in the opinion deliberately formed upon a basis of wide experience of the leading operators of the world, complete operation upon the universally diseased organs will invariably and promptly restore the patient to health and nervous equilibrium, and save her the expense and loss of time accompanying the rest treatment under the direction of the neurologist, which, in these cases, is vain, grotesque and reprehensible. On the other hand, picture the case of an American woman, born and reared in the midst of luxurious surroundings, who marries at an age under twenty-two, bears four or five children within a period of six years; and, following the practice of the majority of American mothers, undertakes to supervise the physical care of her children, not willing to leave them to the mercy and consideration of a hireling, particularly during the night. At about the end of this time, the majority of these mothers become physically and mentally broken. They complain of weariness, nervousness, insomnia, inability to walk any great distance, constant bearing down feeling in the pelvis, headache, both occipital and frontal, backache, disagreeable dampness of the hands, irritable bladder, hyperæsthesia, points of tenderness in both ovarian regions, dysmenorrhœa, dyspepsia, bad

dreams, constipation. With ordinary common sense, she attributes this tableau of symptoms to the strain of the rapidity of her child-bearing, and presents herself to the gynecologist. Upon examination, she has a slight tear in the cervix, slight rectocele and cystocele, relaxation of the ligamentous supports that permits of easy manipulation, and displacement of the uterus. Both ovaries are sensitive to examination. This is a practical case for treatment at the hands of the neurologist. There may be those calling themselves gynecologists who would magnify the importance of the local pelvic condition, and recommend the several plastic operations as a cure-all. But it must be said that they are not representative of the intelligence of this department.

There is no condition under which one could say he was operating to cure either hysteria or neurasthenia. We operate only to cure pelvic disease, but often the cure of these neuroses follows.

I will venture to say there is no class of physicians who are more methodical, systematic, or thorough in the examinations of their patients; there is no specialty in which there is a greater mass of statistical records than ours, and this comes from the almost universal habit of keeping the history book; and the market is full of innumerable varieties of them—a proof that they are demanded.

This book provides heads for family, personal, menstrual, marital, pain, functional, organic and nervous history—going into the history of every organ, and the general circumstances, surroundings, and condition of the patient.

In an admirable paper from the pen of Dr. J. H. Ethridge,* he says: "The declaration is hereby made that, in a large number of cases in which peritoneal laceration and the neurasthenic state exist, they may occupy the relation of cause and effect"; and follows with cases in detail supporting this declaration.

In a discussion before this Society last year, Dr. J. M. Duff detailed a number of cases supporting the ground taken in this paper.†

The hysterical state is very largely self-propagated; that is to say, when hysteria causes a yawn or crying spell, the way is paved for the second yawn or crying spell to take place easier than did the first.

When the hysterical state travels in the direction of the involuntary functions, its production is more frequent; hence, more damag-

* *Amer. Gynecol. and Obstet. Jour.*, February, 1898.

† *Transactions Amer. Assn. Obstetricians and Gynecologists*. Vol. X, p. 218.

ing. Primarily, this state is always the product of a weakened or non-resisting will, and is, therefore, a pure psychosis.

Hysteria and neurasthenia are often associated together, and, when so related, are difficult of division; as to just how much of the symptomatology is due to one or the other is difficult to say.

It can be said that, whereas the symptoms of neurasthenia are seen most evident in the motor system, derangement of normal functions, and general somatic, those of hysteria are more pronouncedly psychical, with emotional out-breaks and loss of will-power. When this disease affects the motor system, the evidence is pronounced, as in paralysis, tremor, phantom tumors, etc. But far more common than these are the symptoms of anaesthesia and hyperaesthesia—the latter often seen as infra-mammary tenderness, and what used to be called ovarian neuralgia.

My friend, Professor F. X. Durcum, has for a long time shown by ingenious bimanual palpation that this pain, in the majority of hysterical women, is a superficial inguinal hyperaesthesia.

The cautious care exercised by my celebrated master, Professor Charcot, in approaching every case of hysteria, has given me an exaggerated respect for this disease, and experience has taught me to be exceedingly guarded in my prognosis as to benefit that may follow operations in its presence.

Unlike neurasthenia, no fixed morphological pathology has been discovered for this affection, and we are totally unacquainted with its etiology. We know that it has a tendency to run in families, and that it is cured by all sorts and manner of treatment.

Professor Charcot had great hopes for the usefulness of hypnotism in its treatment. We know it is most frequently met with in those of a neurotic diathesis, and, in consequence, continued nerve irritation from any source is liable to start it into activity.

It is frequently seen in connection with disease of the pelvic organs, yet it often persists after the pelvic disease is cured. On the other hand, pelvic operations have often cured a patient of hysteria, but innumerable other treatments have cured it also.

Dr. S. G. Webber, of Boston, related a case to me of a woman bedridden for six years, who was suddenly cured by self-suggestion. During her confinement, she had presented many of the graver manifestations, including paralysis.

No stronger evidence of a pure psychosis

could be asked than this. Let us now go on to the consideration of insanity. Insanity is an abnormal condition of the mental faculties, and may be due to defective development, acquired disease, or mental decay.

Two theories may be offered why inflammatory disease of the uterus and its adnexa are potent etiological factors in exciting alienation in females—the reflex theory and the internal secretion theory. The innervation of all the pelvic organs is supplied chiefly by the inferior hypogastric plexus—possibly the most important of all the nerve plexuses, controlling as it does the delicate and complex organic mechanism charged with the reproduction of the human species, the constant irritation of these lower nerve centers begetting in some the delusional manifestations which determine mental alienation.

In the recent physiological theory of internal secretion, we may find the true solution of the deleterious effects that diseased sexual organs exercise upon the distant nerve centers. Some physiologists claim "there is a normal and constant contribution of specific material by the reproductive glands to the blood or lymph and then to the whole body."† If the secretion theory is worthy of consideration, and I think it is, and these glands give off elements necessary to the economic equilibrium, it is possible that, in the presence of diseased conditions, they may give off vitiated elements that act as toxins, and the implantation of pathologic conditions upon these organs must in no usual degree disturb the mental equilibrium, especially in those predisposed to mental weakness.

Jacobs, of Brussels, in conversation with Laphorne Smith, of Montreal, said he gave powdered cow's ovaries to his patients suffering with nervous troubles from induced menopause, and that he had cured several cases of insanity with this remedy. This is very strong evidence that the ovaries do secrete elements to the system essential to its equipoise.

Kraft-Ebing divides insanity into two great groups—disorders of the developed brain and those due to arrest of brain development. The last comprise idiocy and cretinism, which are incurable, and therefore do not enter into this consideration of the subject. The other affections, as melancholia, mania, acute delirium, periodic insanity, moral insanity, hypochondria, hallucinations, hysteria, all belong to the developed brain.

Huxley says that, in all intellectual opera-

† *Amer. Text-Book Physiology*, ed. 1896, p. 901, and *Annals of Gynecology and Pediatrics*, November, 1897, p. 81.

tions, we have to distinguish two sets of successive changes—one in the psychical basis of consciousness and the other in consciousness itself. As it is very necessary to keep up a clear distinction between these two processes, he says let one be called *neurosis* and the other *psychosis*. It is in the clear light of this definition that I make use of the word "psychosis."

In our consideration of hysteria as a psychosis in which the predisposition may be brought into active manifestation by a multitude of *point départ*, from which must not be eliminated diseases of the pelvic organs as an exciting cause, so must these diseases be given due consideration in the etiology and treatment of various forms of insanity; and the clinical facts that are appearing from time to time, following the work of the gynecologist upon the insane, are rapidly assuming the proportions of statistics, which demand and cannot fail of careful and intelligent consideration by both the profession and the laity, the results of which will be that, at no distant day, the gynecologist will be a regularly appointed officer attached to all of our asylums.

Dr. A. T. Hobbs, assistant physician to the Ontario Asylum for the Insane, in a recent paper,[§] states that, upon examination of seven hundred and fifty females in the asylum, one-sixth of them were found to be suffering from disease of the pelvic organs.

He gives in detail the surgical treatment of thirty-two cases of general surgery, in none of whom resulted any mental improvement. He then says, with reference to the gynecic cases: "The following observations apply to one hundred and ten cases, comprising the number operated upon, exclusive of a number of cases too recent to be presented in this report."

It appears that these operations cover a period of over two years. Thirty-six per cent. were completely restored mentally; twenty-nine per cent. showed an improved mental status. In twenty-nine per cent. the mental condition remained stationary, and three per cent. died. He gives details of the diseased conditions and operations performed, and in analyzing the results, notes that the improved mental conditions followed the relief of a certain class of utero-ovarian disease of inflammatory origin.

In closing, he says: "I must emphatically state, however, that many of those who recovered their reason would not have done so without surgical interference. The almost instantaneous resolution of the mental faculties in some, and the steady evolution of the normal cerebral functions in others, cannot but afford

incontrovertible evidence in support of the relation of physical cause and mental effect."

Replying to a letter of inquiry, Dr. T. K. Holmes, of Chatham, Ontario, writes: "My experience with nervous affections, due to pelvic disorders, is gathered from private practice entirely, and embraces thirty-one cases. Twenty-eight were puerperal mania, and three cases of melancholia (all of which are mentally cured by operation).

In answer to my request, Dr. T. J. W. Burgess, Superintendent of the Protestant Hospital for the Insane at Montreal, has furnished me with the details of three cases of insanity (all cured by operation).

Although there are some neurologists of note who are opposed to all gynecic theories of nervous disease, there are others of equal reputation who consent that they are correlated.

In a discussion at the College of Physicians, Philadelphia, on "The Relation of Nervous Diseases in Women to Pelvic Diseases," Dr. Weir Mitchell said: "Insanities of various types in women occur, in which the menstrual period is sometimes the original and sometimes the determinative cause of the mental disease."||

Then follows statistics and details at length.

1412 Beacon Street.

|| University Medical Magazine, Vol. IX, No. 6.

REMARKS ON PRIMITIVE AMENORRŒA, With Report of Case and Presentation of Pathological Specimen.*

By WALTER B. CHASE, M. D., of New York, Borough
of Brooklyn,

Gynecologist to the Bushwick Hospital; Attending Surgeon and
Gynecologist to the Central Hospital and Polyclinic, etc.

The essential fact in the sexual life of woman is the predominating control of ovarian influence, and the central fact in the pathology of woman's sexual life is due in large degree to changes or perversion of function or structure of the ovary.

While ovarian function is not the single influence which sways woman's existence, the absence of it would dethrone her womanhood. About these physiologic and pathologic phenomena cluster influences which dominate and control woman's sexual life, presenting problems of broad and far-reaching influence. The

* Read before the American Association of Obstetricians and Gynecologists, Pittsburg, Pa., September 20 to 23, 1898.

changes, physical and psychical, which mark the advent of puberty, are among the most important in woman's life, and variations from their normal development are entitled to and demand the most careful consideration.

The commonly accepted theory concerning the functional activity of woman's sexual life is that menstruation marks the commencement of ovulation, and that in its ordinary manifestation they are, in point of time, coincident. The experience of all observers doubtless furnishes exceptions to the common law, but these exceptions serve rather to confirm than abrogate it.

Among these variations or absence of physiologic processes, amenorrhœa in some of its forms is of common frequency. An intelligent and comprehensive distinction in amenorrhœa embraces a difference between those cases which are congenital or acquired.

In the former, *emansio mensium* or primitive amenorrhœa, the causes are congenital and chiefly physical, while in the latter, *suppressio mensium* or acquired amenorrhœa, the causes are functional, or largely so. In the first class, menstruation has never been present; in the second class, the function once present is arrested.

There is reason to believe that in most cases of primitive amenorrhœa, except in retention of menstrual blood, ovulation is lacking; but in the case I have to report, ovulation without menstruation was the interesting feature present.

Primitive amenorrhœa may result from congenital deficiency or imperfect development, as follows: absence or imperfect development of ovaries and uterus; degeneration of the ovaries, cystic or otherwise; the formation and development of benign or malignant tumors of the ovaries sufficient to preclude or abolish their function; and occlusion of uterus and vagina preventing escape of menstrual blood from either the uterus or vagina.

It will be seen that the causes of primitive amenorrhœa are not primarily functional, but organic, while, on the other hand, acquired or functional amenorrhœa is due to faulty condition of the blood or an abnormal state of the ganglionic nervous system.

It therefore makes careful scrutiny on the part of the physician obligatory and imperative, particularly in the patient arriving at the age of puberty, when menstruation does not appear, to differentiate as to the cause. It is at once apparent how great the responsibility of making rational and logical differentiation as to those complex factors operating to fit the girl

for womanhood and healthy reproduction. The longer menstruation is delayed, the more emphatic becomes the reason for ascertaining the cause.

One of the frequent causes of primitive amenorrhœa is occlusion of the os uteri or an imperforate hymen, resulting in retention of menstrual blood. Careful physical examination, with or without an anesthetic, will go far to clear up doubt as to absence of uterus or ovaries, or disease of either sufficient to abolish their normal functional activity. If absence of either the uterus or ovaries can be demonstrated, the case is ended. If benign or malignant disease of these organs is responsible for the amenorrhœa, then deliberate and conservative judgment will determine the course to be pursued.

The abnormalities of ovulation or menstrual flow, or both, present a variety of interesting phenomena. There are women who have conceived and borne children, yet have never menstruated, and others who never menstruate save during pregnancy. This simply demonstrates the extremes of irregularity as governed by the common law of physiologic development and function.

The case I have to report came under my observation last fall. Mrs. B., age 24, a woman of refinement and fine physical development, had been married about two years, was sterile, and had never menstruated. She gave an intelligent history of having had all the symptoms which usually accompany menstruation, since the age of puberty, except the appearance of the menstrual flow, commencing at about eighteen years. The symptoms of discomfort developed with perfect regularity every twenty-eight days, with a history of increasing pain and nervous excitability, until during the eighteen months previous to my having seen her the pain had become unbearable and nervous perturbation such that she and her friends feared insanity. The one subjective symptom which gave rise to her fears of mental disturbance, was severe headache and pressure felt at the vertex, which was present for several days at each menstrual molimen. During a year or more she had become conscious of a gradual enlargement of the abdomen, and could herself easily define an abdominal tumor. This growth was easily discoverable to touch and sight, and the rational indications pointed to a distended uterus, the result of retained menstrual blood. The woman's abdomen was fat and thick, but the tumor could be well defined, seeming as large as a uterus at the fifth month of pregnancy. The uterus was pushed

up under the pubes by the tumor, and admitted a sound to the usual depth of two and one-half inches, thus disproving the theory of retained menstrual blood in the uterus.

She entered my service at the Bushwick Hospital, and a careful study was made of the case by the consulting gynecologist and myself. The patient was desirous of an operation, saying she would rather die than longer suffer, fearing she would become insane. On opening the abdomen, dense and extensive adhesions had almost walled off the pelvic contents. I found and removed the two tumors.

The first tumor was a dermoid, and had no pedicle, but was closely adherent to the uterus and right broad ligament. It was already necrotic, having undergone inflammatory changes, and was liable to have ruptured spontaneously. This dermoid found its seat in the right ovary, and had dislodged and supplanted the ovarian structure.

The second tumor was a suppurating multilocular cyst of the left ovary.

The report of the pathologist is both interesting and instructive, and harmonizes with the theory of the case both from a physiologic and pathologic standpoint.

1. That the dermoid had usurped the place and destroyed the function of the right ovary.

2. In one of the cyst walls of the multilocular ovarian cyst, was found a shrunken ovary the size of a large lima bean, and within this ovarian stroma, was found a corpus luteum spurium. To the presence of this ovarian stroma was due the womanly development, with ovulation, and the futile effort of menstruation and its consequent suffering.

3. It demonstrates the possibility of ovulation without menstruation.

4. It leaves us in doubt whether the absence of the Fallopian tubes was primary or secondary to the grave disease of the ovaries, with the possibility that they were congenitally absent.

5. It presents the rare and exceptional condition of a perfectly developed woman who had an ovary and uterus, who ovulated, was sterile, and never menstruated, and yet was ruined in health by Nature's effort to establish an impossible normal function.

263 Hancock Street.

Dio Viburnia (Dios Chemical Co., St. Louis),

According to Dr. Thomas J. Arundel, of Youngstown, Ohio, meets "the most exacting requirements of a general all-round uterine tonic." He knows "of no other preparation on the market which fills all the requirements so well."

SOME FACTS IN REGARD TO UTERINE FIBROIDS.*

By HENRY D. INGRAHAM, M. D., of Buffalo, N. Y.

Although several very ingenious theories have been advanced, nothing is known in regard to the etiology of uterine fibroids. Although their growth is usually slow, sometimes they develop rapidly. Occasionally, they disappear spontaneously. Mention may be made of two cases that developed rapidly after the cessation of menstruation, and removal of the growths became necessary. Also of one case in which the growth disappeared spontaneously.

The belief was expressed that malignant degeneration may occur, but that it is too infrequent to receive much consideration as a reason for operation. The author has seen calcification, which is very rare, and suppuration in the same tumor.

The complications which accompany fibroids are quite numerous, and many of them serious. Among them are fatty liver, probably due to changes in the portal circulation; diseases of kidneys, such as pyelitis, pyelonephritis, and hydronephrosis, due to pressure on the uterus, are quite common.

But the most frequent of all complications are lesion of the heart. One of the reasons given for their occurrence—namely, "increased vascular pressure"—may deserve some consideration, but the writer believes the chief cause of heart lesions is the anæmic and cachectic condition induced by the excessive loss of blood which occurs in many cases. Menorrhagia and metrorrhagia are looked upon as among the most dangerous symptoms of uterine fibroids. If these symptoms cannot be controlled by palliative measures, such as tonics, curetting, electricity, the thyroid extract—and in most cases the writer has little faith in any of these—the removal of the growth becomes necessary. If it can be done by myomectomy, it should be; but if this operation is not feasible, then hysterectomy, either abdominal or vaginal, as the operator may select, should be performed. If complications have not occurred, the removal of the fibroid is a comparatively safe operation.

In all cases of uterine fibroids, even those without any pronounced symptoms, the patient should be carefully watched and complications prevented by removal of the growths if necessary.

*Abstract of a paper read before the American Association of Obstetricians and Gynecologists, Pittsburg, Pa., September 20-23, 1898.

REPORT OF TWO CASES OF LARRY'S SHOULDER JOINT AMPUTATION.

By W. B. BARHAM, M. D., Newsom's, Va.

The cases which I shall report will probably be of interest to the profession on account of the infrequency of such cases in country practice. The operations were performed fourteen years ago, and since that time I have made diligent inquiry of every physician in country practice with whom I have come in contact, and I have been able to collect only three cases. The two which I now report, and one successful case, operated on by Dr. R. H. Cobb, of Franklin, Va., being first case, will, I think, illustrate admirably the grave difficulties with which the physician who attempts surgical practice in the country has to contend.

On the morning of April 6th, 1884, I was called to see C. D., colored, who on the night before had sustained serious injury while lying in a drunken stupor on the Seaboard Railroad. I arrived at his house about 10 A. M. I found that the patient had thoroughly recovered from the shock of the injury, and that at that time he was suffering intense pain. His mental faculties, which the night before had been clouded by the amount of whiskey he had drank, were now perfectly clear, and his appeals to me to do something for his relief were piteous. So great was his intoxication on the night before that he has since assured me that he knew nothing of his injury at the time it occurred, and that he felt no pain until the next morning. Judging from the time he left the station, and from the time the train passed, he must have received the injury about 9 o'clock at night; and he lay in that condition until early next morning, when he was found and taken home.

On examination, I found that the wheels of the car had cut off the left arm within about four inches of the shoulder joint. The soft tissues were so lacerated that I saw that it was impossible to get a healthy flap unless I performed the shoulder-joint amputation. Notwithstanding my misgivings as to the result, I resolved to try this operation for his relief, and after consulting my works on surgery, I concluded that Larry's method offered the best hope of success. The fingers of the left hand were also so badly crushed that I found it necessary to amputate three of them.

Having resolved to operate, you can well imagine how great was my discomfiture when I realized the fact that I had no amputating case, nor did I know where I could get one.

At that time I feel very sure that not a physician in my county owned one. I resolved, however, with the concurrence of Dr. F. E. Williams, whom in the meantime I had called to my aid, to try what could be done with a butcher's knife sharpened for the purpose. I cannot imagine a more trying ordeal for a surgeon than to be confronted on the one hand by an imperative duty, and to see looming up on the other the possibility of a malpractice suit in the event of a failure; and I must confess that it was with a great deal of hesitation that I began the operation, poorly supplied as I was with instruments. It was, however, clear to my mind that, without some surgical aid, the patient would surely die. I would greatly have preferred to operate below the neck of the humerus, but, for the reasons stated above, my only resource was the shoulder-joint amputation or none at all.

About 3 P. M., Dr. Williams having etherized the patient, I proceeded to operate according to Larry's method, as described in most works on surgery. The only antiseptic used was carbolic acid, for at that time aseptic surgery had not reached the high state of excellence that it has at present. The axillary artery and vein were included in the same ligature. At this juncture, the patient's critical condition forced us to hurry the operation, and I am satisfied that other tissues besides the vessels were included in the ligature. We were convinced of this, for it was nearly three months before the ligature came away. This gave us no little worry and anxiety. It may be urged, in extenuation for this negligence, if such it may be termed, in not carefully separating the vessels from other tissues before ligating, that the hemorrhage was so great when we severed the axillary vessels that we were fearful that death would take place before we could complete the operation, and, in our hurry and excitement, we were not as careful as we would have been under other and more favorable circumstances. The patient was under ether about an hour, and several times did we have to resort to hypodermic injections of whiskey to stimulate his flagging heart's action and to artificial respiration. The circumflex artery was twisted and gave us no further trouble. The wound was irrigated freely with carbolized water, and the edges of the wound were brought together with ordinary surgeon's silk. Under the stimulating treatment that I have mentioned, the patient rallied well from the effects of the operation, and his recovery was steady, though somewhat tedious.

I regret that I did not keep a daily record of his pulse and temperature, but I feel very sure

* Read before the Medical Society of Virginia, during its Twenty-ninth Annual Session, at Virginia Beach, August 30th to September 1st, 1898.

that only once did the latter reach 100° F., and that was caused by the formation of a small abscess in the lower part of the wound. The wound was dressed daily for a month, and the dressing consisted of washing it thoroughly with carbolized water, after which cotton smeared with carbolized oil was applied. The injury of the right hand was dressed in the same way. Morphia was administered at night when necessary for the relief of pain, but it was very seldom that he needed this. As a general thing, he slept well at night, and he had a good appetite throughout the whole treatment. The most nutritious diet that the circumstances would admit of his procuring was ordered, but sometimes his diet was anything but that suitable for a sick man. In the latter part of the treatment, iron and quinia were used for their tonic effect, but I cannot say that they were specially indicated.

You can hardly imagine a case where the sanitary conditions were more unfavorable than in this. The house of the patient was a log cabin peculiar to this section of Virginia, and the only ventilation consisted of a door and a small window. In this cabin two families slept and did all their cooking.

The stump resulting from the operation was not as good as I would like, but on account of the great laceration of the soft tissues, it was the best that could be gotten.

I make no claim to any special skill in the performance of this operation. Such a thing, under the circumstances, was impossible. The chief interest in the case is the difficulty under which the operation was performed, and the very unfavorable surroundings of the patient at the time and throughout the after treatment; but notwithstanding all these drawbacks, he made a good recovery. This shows the wonderful recuperative power that is often manifested by our patients. Careless and slipshod surgery is at all times to be condemned, and possibly this case may be so characterized. Under similar circumstances, however, I would do the same thing again. The end justified the means, and I have no regret, though the surgery may have been crude and unskillful.

My notes on the second case are very meagre, as the patient lived only a few days after the operation.

A short time after I had operated on the first case, I was called in consultation by Dr. J. H. W. Sykes. The patient was a white boy, about 10 years old, who had been seriously injured by some part of the machinery of a stationary engine. He was caught in one of the wheels, carried around in its revolution, and thrown violently to the ground. The right arm was

torn off at a point midway between the elbow and shoulder-joint. In addition to this, he sustained a fracture of the left arm, and serious internal injuries besides.

Dr. Sykes very courteously insisted upon my operating. This I did by Larry's method, as in my first case. Profiting by my first experience, I had secured an amputating case, and this operation, so far as instruments and surroundings were concerned, was performed under much more favorable circumstances. The treatment of the wound was the same as in the first case, but, owing to the more serious injuries in this case, a stimulating and sustaining treatment was adopted from the very first. The little patient did fairly well until the sixth day, when congestion of the lungs took place, to which he speedily succumbed. I feel very sure that had the injuries in both cases been the same, that this boy, notwithstanding his more tender years, would have made a much more rapid recovery. He certainly would have had the great advantage of more intelligent nursing, better food, and more favorable surroundings. From the first, however, I considered his injuries to be of a very grave character, and his death was no surprise to me.

SURGICAL TREATMENT OF INTUSSUSCEPTION IN THE INFANT, WITH CASES.*

By H. HOWITT, M. D., M. R. C. S. Eng., of Guelph, Ontario.

In the paper, the term infant is restricted to those under one year of age. After briefly describing the different varieties of intussusception that occur at any period of life, and also referring to particulars in regard to statistics, modes of growth, length of bowel involved, and severity of attack in the varieties, we have in the infant only the acute forms with which to deal in practice, nay, possibly only the ileo-colic, which all authorities agree to be the most acute and rapid variety of invagination. It is the ileo-cæcal form plus the valve distended and its lumen occluded by the swollen and cedematous invaginated portion of the ileum, which, owing to the light constriction at neck by the valve, in a manner resembles a well-hammered boiler rivet that no evenly distributed pressure from within can force out.

Undoubtedly many instances of the trouble occur in infants, leading invariably to death, without the true nature of the malady being recognized by the attendant; and, when the facts having reference to this variety of intus-

*Original abstract of "a Second Paper containing Remarks bearing on the" subject title above, read before the American Association of Obstetricians and Gynecologists, in session in Pittsburg, Pa., September 20-23, 1898.

susception become generally known, fewer deaths will be recorded to certain bowel affections and more lives saved by surgical means.

The author of this paper has seen seven cases—six of them almost within the past five years, or since his attention has been drawn to the subject. Six of them were in male children, and all came from a district the population of which is under twelve thousand. He operated successfully on four of them, all of whom were under six months of age. A confere lost one owing to an accident during the operation; one of the friends refused operation and death resulted, and one died shortly after the onset before anything could be done.

Symptoms of ileo-colic intussusception come on with a sudden onset during sleep, and with severity unknown in any other disease of infancy. The child awakes with a piercing scream; shortly the surface of the body becomes blanched and moistened with a clammy perspiration common to profound shock. The child may die from the effects of the shock or convulsions induced; but generally, however, reaction sets in often with vomiting, and in a comparatively short time there may be no evidence in external appearance, pulse, temperature or otherwise to indicate danger. One of the little patients, when placed on the operating table, was smiling and cooing as if nothing were amiss. But after a varying lapse of time, colicky attacks of pain set in and tend to return, as time advances, at lessening intervals; but these attacks do not come on with the suddenness nor with the severity of that of the onset. It always causes complete obstruction, though at first we may have one or two natural movements; then merely mucus, or mucus tinged with blood. Vomiting is common. A tumor is generally felt. It may be absent at first till the œdema of the fragile bowel makes it form. In the later stages, it may be covered by tympanites or forced under the ribs out of reach.

In regard to its diagnosis, the author emphasizes very strongly the importance of the history of the onset, and states that, without it, the attendant may be likened to a ship in a storm without a helm or compass. In fact, the nature of the onset may suffice to make a diagnosis. The detection of a tumor in the course of the colon leaves no room for doubt.

In reference to treatment, the condition in this form of intussusception is such as to pre-

clude the hope of recovery by any method short of the operative. No time should be lost in trying either bowel inflation or injection of fluids; they can do no good, merely leading to a loss of valuable time, while they exhaust and endanger the life of the little patient.

The author's method of operating is as follows: Maintain the temperature of the child by suitable applications to extremities and body during operation; rigid aseptic preparations and precautions; a median three inch incision, avoiding the high placed bladder. Eventrate the small intestines as quickly as possible and protect with gauze which is irrigated with water of suitable temperature. The evisceration allows the trouble to be quickly brought into view, when, as is generally the case, the invagination has reached the transverse colon, you cannot bring it out of wound until the part of the large bowel implicated is disinvaginated. This is easily accomplished by making pressure on the apex of the intussusceptum while the intussuscepti is pulled in an opposite direction. It is done by grasping the colon close to the apex with the hand and following it up the bowel step by step till the colon and cæcum are free. The mass is now lifted out of the incision; then comes the most difficult point—the reduction of the invaginated portion of the ileum. The part is grasped in the hand and firmly pressed for a few minutes. Then pressure is made with thumbs on the apex, while the fingers surround and support the outer orifice of the ileo-cæcal valve. The method resembles that used in paraphimosis, only the large bowel covers the part from view. Before returning the bowels to the abdominal cavity, the contents which have accumulated in the ileum above are forced through the affected part into the colon; this proves that the difficulty has been effectually overcome, and ensures an early movement of the bowel. No drainage is necessary. The omentum is spread over the intestines to prevent adhesion of the bowel to the line of incision. The dressing is covered with oiled silk, the edges of which are sealed with collodion in order to prevent the urine from reaching the cut.

The following table shows all the cases of infantile intussusception which the author has seen, with particulars:

Initials.	Sex.	Age.	Date of attack.	Treatment.	Operator attendant.	Date of operation.	Result.	Date of death.	REMARKS.
W. C.	M	2 mos., 28 days.	July 2, 1888.	Operative.	Self.	July 4.	Recovered	.....	Left hospital on tenth day.
E. W.	M	5 mos., 15 days.	July 17, 1890.	Medicinal.	Dr. W. O. S.	No op.	Died.	.....	Post-mortem proved diagnosis.
F. J.	M	5 mos., 25 days.	Apr. 20, 1891.	Operative.	Self.	Apr. 21.	Recovered	.....	Left hospital on tenth day.
I. B.	F	4 mos.	Mich. 31, 1895.	Operative.	Dr. W. S.	Apr. 2.	Died.	April 2	Death due to accident during operation.
A. Mott	M	5 mos., 20 days.	Sept. 17, 1897.	Operative.	Self.	Sept. 17.	Recovered	.....	Left hospital on tenth day.

PARTIAL BLINDNESS FOLLOWING THE ADMINISTRATION OF POTASSIUM BROMIDE AND PASSION FLOWER.

By STEPHEN HARNSBERGER, M. D., Catletts, Va.

Some aberrant effects of potassium bromide and fluid extract of passion flower have occurred to me recently, to which I may, perhaps, attach more importance than they deserve, but to which I have thought proper briefly to call attention more especially as I am not aware that they have ever been recorded.

In the month of March, 1898, I was hastily requested to visit the daughter of a farmer—a rather well nourished, but pallid subject. She had suffered on the morning of the day with what the messenger called “a fainting spell.” Her family thought she was dying. On my arrival, I found her sitting in a chair—she said she could not breathe when lying down—with facial expression more indicative of fear than of pain; headache; slight palpitation; sense of stricture in the chest; cold extremities; accelerated, irregular pulse, and some pain in the hypogastric region near the right iliac border, aggravated by pressure. Three days before, her sickness came on, but only lasted one day, and she attributed her condition to its sudden stoppage. Her face was pale and her whole aspect announced anxiety. I explained that she was in no immediate danger, and ordered sedatives and nervines. She was soon well.

About three weeks ago, her father called and said she was complaining somewhat as she did when I first saw her—especially of the pain and tenderness over the seat of the right ovary. I prescribed—

Ry—Potassium bromide.....	3j
Fl. ex. Passion flower.....	3ivss
Water, q. s. ad.....	3iv

M. Sig.—One teaspoonful four times a day, last dose at bedtime.

A letter, just received from her, states that she took the remedy regularly for eight days, when she became dizzy and blind rather suddenly, and, though she omitted the medicine at once, this condition continued in gradually lessened degree for a day or so. When these symptoms supervened, the nervousness and ovarian pain had entirely disappeared.

About the time I gave the above prescription, a young and robust laboring man applied to me on account of palpitation of the heart, dull headache, and dread of impending danger. He had been an excessive tobacco chewer from early youth (as well as I could ascertain, since five or six years of age), and at the time he consulted me was a section hand on the South-

ern railroad, which is, as every one knows, very laborious work. About three years ago, a few minutes after drinking a couple of glasses of beer, he was suddenly cognizant of unusual heart action, with considerable difficulty of breathing and a feeling as if the whole muscular apparatus of his body was in convulsive motion. This condition gradually subsided, and by the day following he felt in no wise out of health. When he saw me, he said he had not been able to work for a day or so because his heart beat so strong and fast at times.

Examination found the area of cardiac dullness increased—pulse full and strong. I ordered evacuants, and, to quiet his nervous system and allay mental uneasiness, the same remedy was given as in the preceding case.

After taking it two days and better, he came to me complaining of a light, empty feeling in his head and loss of sight. He said he could scarcely see how to walk along the public road. An examination of his eyes proved negative—I could find nothing abnormal. I told him to stop the potash preparation. He did so, and the blindness left.

A day or so later, I advised him to try another dose, which he did, and, singular to say, with a return of the blindness.

Here we find two persons, of entirely opposite conditions of systems and dissimilar disorders, similarly affected by the same remedy—with symptoms altogether anomalous to those usually produced by the drugs.

I have, with some care, consulted works on general and experimental therapeutics, toxicology, etc., but in no instance, save one of bromide poisoning related by Prof. Edward H. Clarke, have I been able to find where symptoms of disturbance of vision followed either physiological or toxicological doses of potassium bromide or passion flower. I might have attributed this exceptional action of these drugs to some fault, change, or adulteration of the preparations had I not filled the prescriptions at my own counter, and know that several prescriptions, calling for various proportions of the same ingredients, had been filled from the same bulks of each, and which were followed by no untoward symptoms. Therefore, if I cannot ascribe their unpleasant effects to individual susceptibility, I candidly confess that I am much at a loss to account for the symptoms manifested in these two cases.

In conclusion, I will state that, under enjoined rest and the disuse of tobacco, and the use of evacuants and nervines, my latter patient seems progressing very favorably towards restored cardiac function.

Book Notices.

(1.) **Elements of Histology.** By E. KLEIN, M. D., F. R. S., Lecturer on General Anatomy and Physiology, and J. S. EDKINS, M. A., M. D., Joint Lecturer and Demonstrator of Physiology, Medical School of St. Bartholomew's Hospital, London. With 296 Illustrations. Revised and Enlarged Edition. Lea Brothers & Co. Philadelphia and New York. 1898. Cloth. 12mo. Pp. 500.

(2.) **Essentials of Histology—Descriptive and Practical.** By E. A. SCHAFER, LL. D., F. R. S., Jodrell Professor of Physiology, University College, London, etc. New Fifth Edition. Revised and Enlarged With 392 Illustrations. Lea Brothers & Co. Philadelphia and New York. 1898. Cloth. 8vo. Pp. 359. \$2.25.

In this day of the more and more scientific study of medicine, practitioners need books on histology. The study of normal tissue, and the normal structure of organs, is an essential to the recognition of diseased conditions. The books whose titles head this page would serve well the need of the doctor. But, in addition, either of them would make an excellent text-book for College students. In fact, Schäfer's *Essentials* have been very generally adopted as the text-books in American medical colleges. It was intended, indeed, for the "use of students," and there must be few professors who have adopted it who would be willing to let it depart from the class-room. This fifth edition has been so fully and carefully revised as not to present even the few errors of print which had been overlooked in the former edition; and, besides, has considerable new matter. In short, it well fulfills its announced purpose as a student's text-book.

Klein's *Elements* is a more handy book—for ready reference. And yet we scarcely see wherein it is superior to Schäfer's. The two serve well as companion works—the one dovetailing nicely with the other. As a rule, it may be said that the one supplies the deficiencies of the other. Both are up to date in their respective spheres. Klein's *Elements* are, perhaps, more thorough in the chapters on the central nervous system.

Our intention, however, is not so much to make comparisons between the two works as it is to call attention to the fact that both are just revised editions, and to let the reader select between them for himself, with our assurance that he will make no mistake in selecting either.

Text-Book of Practical Therapeutics With Special Reference to the Application of Remedial Measures to Disease, and Their Employment Upon a Rational Basis. By HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica, Jefferson Medical College of Philadelphia. With Special Chapters by Drs. G. E. DE SCHWEINITZ, EDWARD MARTIN, and BARTON C. HIRST. New Seventh Edition. Thoroughly Revised and Largely Rewritten. Illustrated. Lea Brothers & Co. Philadelphia and New York. 8vo. Pp. 776. Net price: Cloth, \$3.75; Leather, \$4.50.

We have watched the successive issues of these editions with much interest, because each has been justly popular and as nearly perfected to date as such a book could be. While well adapted to the needs of the College room, it is to the general practitioner that we most cordially commend the book. It comes more nearly meeting his precise wants than any one volume work that we know of relating to practical therapeutics. Years ago, *Waring's Therapeutics* was the book; now it is *Hare's Therapeutics*. It is divided into *Part I*—giving general therapeutic considerations, such as modes of action and administration, dosage and absorption of drugs, etc.—and a good classification of drugs; *Part II* is given to drugs—named alphabetically; *Part III* considers remedial measures other than drugs and foods for the sick, etc., as acupuncture, antiseptics, antitoxin, climate, counter-irritation, etc.; *Part IV* names the diseases or conditions which are to be treated, and advises how to prescribe, and what for, etc. Appended to this part are many useful tables, etc., and the *Indexes* of diseases and remedies and of drugs and remedial measures. We feel that in praising this book we are but repeating a tale which has many times been told.

A Country Doctor. By THOMAS HALL SHASTID, M. D., Battle Creek, Mich. Published by the Author.

This book—true to life and filled with pathos and anecdote, which can be read through and through in an hour or so—was originally published in the February 27th, 1897, issue of the *Journal of the American Medical Association*, but without the illustrations which embellish and show off the country doctor in a way that words cannot describe. The issue of the book in its present form is private, and the edition is limited to 250 copies. We take this means of recognizing the special compliment of being the recipient of a presentation copy "as a mark of esteem" by the author, and to assure him that in his descriptions of his father—the country doctor—he has drawn pictures of one of the noblest of characters that lives.

Twentieth Century Practice. *An International Encyclopedia of Modern Medical Science.* By leading authorities of Europe and America. Edited by THOMAS L. STEDMAN, M. D. Vol. XV. *Infectious Diseases.* New York: William Wood & Co. Cloth. Svo. Pp. 658.

Influenza, typhus fever, plague, glanders, anthrax, mouth and foot disease, actinomycosis, rabies, and pyæmia and septicæmia are the infections considered in the present volume. Of the ten authors, Dr. Frank S. Billings, of Grafton, Mass., J. McFadden Gaston, Sr. and Jr., of Atlanta, and N. G. Keirle, of Baltimore, are the only Americans. The others are Drs. Boas, of Berlin; Finkler, of Bonn; Kitasato and Nakagawa, of Tokio, Japan; Licèaga, of Mexico; and Ponfick, of Breslau. Of the several papers, that on Influenza (by Finkler) covers nearly 250 pages and is exhaustive—with the exception, perhaps, of treatment, which covers only three pages. The paper on Pyæmia and Septicæmia, by the Drs. Gaston, is plain, practical, and one of the most useful in the volume. Dr. Keirle, in the chapter on Rabies, shows himself familiar with the disease in its various forms—in animals as well as man. This volume, in brief, is in keeping with most of those that have preceded. It marks a decided advance in medicine as to the recent past, while it points to the probable achievements of discovery of the near future—especially in the line of more knowledge as to points of etiology, prophylaxis and treatment.

Editorial.

Supra-Pubic Cystotomy for Prostatic and Other Troubles.

The *Dublin Journal of Medical Science* very cleverly reviews Dr. Xavier Deloze's work, which attributes to Poncet the introduction of supra-pubic cystotomy for prostatic troubles, etc. "We cannot accept a claim for originality," says the *Dublin Journal*, "which is based on ignorance of the past." Poncet's "first case was not published (*L'Union Medicale*) until three years after Dr. H. McGuire, of Virginia, had published his cases and his description of the operation in the *Transactions of American Surgical Association* for 1888. The operation is also described by Dr. H. McGuire in the *International Encyclopædia of Surgery*, Vol. VII. Dr. H. McGuire's claims to the honor of introducing the operation were also stated in the Continental papers. Twelve months have scarcely passed since it was shown in the

Madrid paper, *El Siglo Medico*, that M. Poncet's claims to be considered the discover of the operation were not based on good grounds." The Dublin article concludes: "We hope that our surgical brethren of Lyons are not unwilling to acknowledge the just claims of the great Virginia surgeon, Hunter McGuire."

Diphtheria Antitoxin Used in California.

From the "Report on Diphtheria Antitoxin," in the "Fourteenth Biennial Report of the State Board of Health of California," we find that "after considerable investigation and trials of the German and French preparation, we are giving our preference to the American production; and most of the antitoxin used by the Board is from the laboratory of Parke, Davis & Co.," and not that of the H. K. Mulford Co., as has been stated in a large edition of booklets issued by the latter firm. The explanation given by the latter Company is that the printer failed to use brackets in the proper places.

The Virginia Medical Colleges

Have all opened well. The University of Virginia has a larger class than usual. The Medical College of Virginia has over a hundred matriculates. The University College of Medicine, Richmond, Va., opened October 3d, with classes that indicate over 300 students during the session.

Water Supply of Richmond, Va.

Superintendent of Water Works, etc., Mr. Bolling, read a masterly paper before the Richmond Academy of Medicine and Surgery, September 28, showing that the water supply of Richmond was among the purest of the cities of the United States.

The Southern Surgical and Gynæcological Association

Will meet in Memphis, November 8, 9 and 10, 1898. Fuller announcement will be made later.

Dr. Arthur Jordan,

One of the immune surgeons commissioned in the U. S. Army, who served in the battle of Santiago, came through Richmond—his former home—and for the present is in Washington, D. C.

Tulane University of Louisiana, Medical Department,

Has postponed the opening of its session to November 10th, because of the quarantines against New Orleans, due to yellow fever.

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ETIOLOGY, SYMPTOMS, AND TREATMENT OF HIP-JOINT DISEASE *

By A. M. PHELPS, M. D., New York, N. Y.

Tubercular joint diseases are invariably preceded by local inflammatory action, which may be brought about by trauma, embolism, or other causes. The patient, however, in all probability, has an inherited predisposition, known as struma, which is a condition. The tubercle bacilli in the circulation, which had not before made their presence known, find a nidus in the area of inflammation in the joint, and soon begin their work of destruction of the new inflammatory material—whether it be cartilage, bone, capsule, or synovial sac. A tubercular joint is, therefore, preceded primarily by a local inflammatory focus. The injury occurs which leads to inflammation, which is a normal process of repair. The embryonic tissue becomes inoculated by pathogenic germs which are floating in the circulation. The tubercular germs are carried to the inflamed area. Inoculation takes place, and a tubercular joint disease is the result.

When a child receives tubercular germs into the circulation, they enter by the distal lymphatic glands, which are first involved. Hence the scrofulous glands of the neck, or tabes mesenterica. These glands break down and rupture into veins, developing joint or Pott's disease by metastasis.

It may not always be easy to get the history of primary injury to the vertebrae or the joint—either because the nurse conceals the fact of a fall or a blow, or else the injury may have seemed so trivial at the time as to be almost forgotten by the time the disease manifests itself. But if sufficient investigation can be

made, it will almost invariably be found that tubercular joint disease succeeded an injury of that joint. Inoculation with the tubercle bacillus or pyogenic germs takes place at the point of lesion.

EARLY SYMPTOMS OF HIP-JOINT DISEASE.

Before considering the early symptoms of hip-joint disease, I would like to call attention briefly to a few facts which are observed clinically. Joints attacked by inflammation, either intra- or extra-capsular, have a condition of rigidity or spasm of the muscle about them. This is due to irritation of the terminal nerve plates in the area of disease, transmitted through the reflexes. The muscles operating upon the joint, which are supplied by a nerve given off from a common nerve trunk (one branch distributed to the area of the disease, the other to the muscle), are affected by spasm, while the other muscles may remain quiescent. That muscles affected by spasm will rapidly atrophy is well known. These facts are observed particularly in inflammation of the knee joint. The knee joint is supplied posteriorly by branches from the great sciatic nerve and by nerves given off from the anterior crural obdurator. When inflammation attacks condyles, flexion and rapid atrophy always take place, but in patellar disease, or disease located anteriorly, the limb remains in the straight position, owing to the fact that the reflexes are distributed through the anterior crural obdurator and not through the great sciatic.

Assuming that these propositions are correct, and clinical observations seem to demonstrate them, we must at once conclude that *rigidity of the muscles from spasm, producing a limit of motion*, would be the first symptom observed in any joint disease. Limit of motion due to spasm of muscle, in any joint, produces deformity.

We would designate as the second most common early symptom in joint disease, *deformity*. This limit of motion and deformity

* Dr. Phelps, present by invitation, instead of reading a paper, spoke extempore—illustrating his remarks by a number of charts and the exhibition of a number of specimens of tubercular bones and joints.

produces a *limp*. So I think we can safely say that limit of motion, deformity, and limp are nearly always, if not always, present in hip-joint disease in the early stages.

There are, in general joint diseases, eight cardinal symptoms, two or more of which are always present. These cardinal symptoms are pain, heat, swelling, pain on joint pressure, limit of motion, spasm of the muscles, atrophy, and deformity. Each joint has superadded to these eight cardinal symptoms other special symptoms. These special symptoms are due to the anatomical characteristics of the joint. In hip joint disease, pain is not always a common symptom; rise of temperature, owing to the depth of the joint, is hardly perceptible; swelling is not seen until effusion or dislocation takes place; pain on joint pressure is present only in intra capsular disease, located between or near the articular surfaces. Limit of motion, spasm of the muscle, limp and deformity, with apparent lengthening or real shortening, are nearly always seen associated together. Atrophy pretty constantly occurs, especially in bone diseases, and it may occur as early as the tenth day. The other symptoms observed in the early stages are night cries, pain in the knee, flattening of the buttock, partial or complete obliteration of the gluteal fold.

When the limb is in a straight position, the muscles accurately balance it, but when the limb becomes flexed, the action of these muscles is changed in proportion to the amount of flexion. If these muscles are in a condition of excitability or spasm from reflex irritation, one can easily see how various deformities can take place, depending entirely upon the position of the limb when the muscles act. When this great mass of muscles is affected by spasm, which is always the case in inflammation, one can readily see how limit of motion and deformity, to a greater or less extent, must be the earliest symptoms observed.

Before the last American Orthopædic Association, I presented a model, together with several dissections which I had made of the joints, for the purpose of demonstrating why the limb assumes certain positions, with occasional exceptions, when the joint is inflamed. The capsule of the normal joint is twisted around the head and neck in such manner that when the limb is in the straight position, great tension is exerted upon the joint through the capsule and its other ligaments. Now, when the joint or capsule becomes inflamed, the patient invariably places his limb in a slightly flexed and abducted position to relieve

tension, and changes altogether the action of the muscles; they, being in a condition of spasm, together with the voluntary act, produce the deformity of the first and second stage of the disease. When flexion takes place just a little further, the action of the muscles is entirely changed; abductors become inward rotators; outward rotators become, to a certain extent, abductors, etc., etc. Resistance not being offered to the abductor muscles, the limb, by their contraction, passes over to the deformity of the third stage of hip joint disease—that is, abductive flexion and inward rotation. There are exceptions to these deformities, which I have designated as erratic, but they will not be considered now.

These deformities take place whether disease is intra capsular or extra-capsular—whether there is effusion into the joints or not; and let me say here that only a limited number of cases have effusion into the joints in the early stages. To conclude, the importance of symptoms, I believe, speaking generally, occur about in the following order:

1. Limit of motion.
2. Deformity, with apparent lengthening or real shortening.
3. Limp.
4. Atrophy [bone disease].
5. Pain in the knee [with absence of knee-joint disease]
6. Pain on joint pressure.
7. Night cries, in absence of other joint disease.
8. Flattening of buttock, with change in gluteal fold.
9. Heat.
10. Swelling.

The order of these symptoms might be transposed a little by some authors, but this order will answer for diagnostic purposes.

TREATMENT.

The treatment of hip-joint disease is divided into the operative and mechanical. In all cases where abscesses are present, they should be immediately evacuated. This enables the surgeon to intelligently explore the diseased joint with his finger, and ascertain to what extent the disease has progressed. If the head of the bone is separated from the neck, it should be removed, together with the great trochanter and the neck. The acetabulum, if diseased, should be thoroughly curetted, together with any other diseased tissue that may be found in the joint. If only small points of disease are found within the joint, those should be curetted, together with whatever diseased

tissue exists within the joint, and the cavity washed out with bichloride solution, one to two thousand. The joints should now be filled with a solution of iodoform and glycerine, one-half ounce of iodoform to four of hot glycerine. After this has been done, the patient should be put in bed, with extension in the line of deformity and lateral traction above the knee, amounting to about three pounds. Day by day the limb should be lowered, until the deformity is overcome. When the deformity is overcome, the lateral traction fixation splint [see Figs. 3-5], which I devised and use in the Post Graduate and University Dispensaries, should be adjusted, and the patient put on crutches, with a high shoe on the well leg. Pus and tubercular material destroys living tissues, and when joints are allowed to macerate for weeks and months in these materials, which now seems to be the favorite method of many of our orthopædic surgeons, extensive destruction of bone will almost surely follow.

In the face of such dangers as threaten life and limb, the timid or conservative surgeon is worse than no surgeon. Do not use the curette unless all disease can be removed; better irrigate and drain—abraded surfaces absorb. Conservative surgery does the right thing at the wrong time. Scientific surgery the right thing at the right time.

In many cases, extensive cutting of muscles, tendons and fascia may be necessary to overcome the deformity. The reader will see, then, that we believe that deformities should be first overcome and all abscesses opened before the mechanical work begins. *No case of hip-joint disease need recover with angular deformity*, and to secure and attain this end, steps should be taken at the commencement of treatment to place the limbs parallel, after which the lateral traction fixation splint, already alluded to, will prevent the patient from becoming again deformed.

MECHANICAL TREATMENT.

For many years the profession has been taught that the long traction splint used by Sayre, Taylor, and others, was the proper machine to use. The patient is allowed to walk upon this splint, using it as a perineal crutch. The splint stops at the trochanter and exerts no power over the joint on that account to fix the joint. The patient, stepping upon this splint with the strap around the perineum, causes trauma of the joint while walking, and nearly every splint that I have seen adjusted allows the patient to put his toe upon the ground, which, of course, drives the head of the bone

into the acetabulum each time the patient steps. This pumping of the head of the bone backwards and forwards into the joint at the rate of 2,000 times an hour each day, as the child runs, accounts for the disastrous results which we see published from institutions where this splint is used. Angular deformity, which produces shortening, nearly always results from the use of this splint. The statistics published by Shaffer and Lovett, in the New York *Medical Journal*, from the Fifty-ninth Street Orthopædic Dispensary, in thirty-nine cases reported on in a series of many hundreds:

Ankylosis.....	19	Motion from 10 degrees... 7
Slight Motion.....	6	Motion to right angle.... 3
	25	Motion free..... 3

The three with free motion were treated during the first stage of the disease; two were under three years old. There were only two

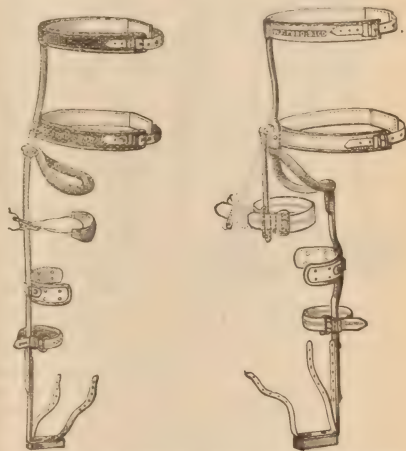


Fig. 1.—The Cheap Dispensary Splint. Fig. 2.—Inside Bar and Lateral Traction.

cases without shortening. The splint used was the long traction, which I have already described—one which admits of free motion at the hip joint, and the patient is allowed to walk upon it. This splint was devised during a time when it was believed that fixation would produce ankylosis of the joint, and that motion was necessary to keep up the nutrition of the joint. It is needless to say that we have outgrown both of those ideas. The statistics of Chambers Street Hospital of fifty consecutive fractures of the elbow joint, treated by Dr. Charles Powers, now of Denver, Col., show

only one case of ankylosis. These patients were fixed in plaster-of-Paris for many weeks, without passive motion. In the Post-Graduate Hospital and University Dispensary we fix our cases of hip joints from one to five years without motion, with the lateral traction fixation

from the foot to the axilla (see Figs. 1, 2, 3, 4 and 5).

Fig. 2 represents the perineal crutch, with the abduction bar adjustable by means of the key, for the purpose of making lateral extension. The steel bar is adjusted to the steel ring

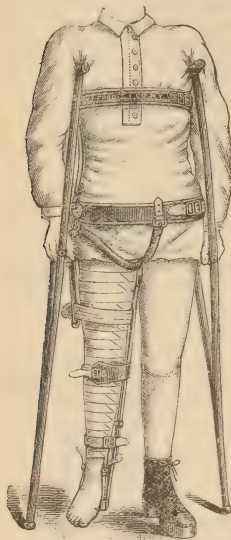


Fig. 3.—The Patent Splint, Adjustable High Shoe and Crutch.

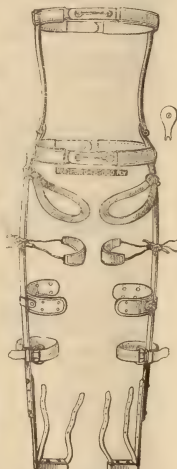


Fig. 4.—The Double Dispensary Splint.



FIG. 5



FIG. 6.

splint, and in our long series of cases not one has resulted in bony ankylosis, excepting cases with great destruction of bone; and where we have had control of the patients they have recovered, practically, without angular deformity. Shortening is seen in this long series of cases only from non-development of the limb, and extensive bone destruction. The accompanying cuts and description will convey a very accurate idea of the splint which we use in our treatment after the deformity has been overcome in bed. Tissues inflamed or diseased should be put at rest, to allow the normal process of repair to take place without the trauma of motion. *This is the law.* It is applied in the treatment of the iris, fracture, sprains, and any other tissue that can be immobilized. To carry out the requirements of this law in so far as possible, I was led to devise the splints illustrated in this article.

To fix the hip joint, a splint must extend

which makes a firm crutch, the pressure coming on the tuberosity of the ischium. Adhesive straps, extending to near the body from the ankle, furnish means of extension by tightly buckling them to the straps, the ring furnishing counter-extension. The rod ending in the upper ring, prevents flexion and extension of the legs. The splint is intended to prevent every motion at the hip joint, and at the same time apply extension in a line with the neck of the femur. Fig. 3 shows the crutch and splint adjusted, the patient using crutches, and standing upon a high shoe upon the well leg.

This splint I found a little too expensive for dispensary work. I then constructed the splint (Fig. 1), which simply does away with the extension joint and key. It is an outside bar brace.

After a time, for my poor patients in the hospitals and dispensaries, I succeeded in perfecting a cheap splint, which applies the principle

of fixation and traction in the line of the neck.

A glance at the cuts will convey the idea. Figs. 1, 2, 3 and 5 are the single, and Fig. 4 the double splint for double hip disease. The splint is a bar of steel, extending from the foot to the axilla, accurately bent to fit the body.

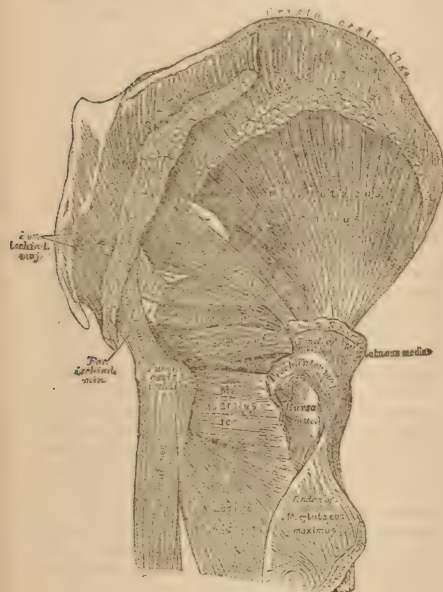


FIG. 7.

A tracing made on paper by laying the child on it will assist in shaping the bar. A pelvic belt, a thoracic belt, and a steel perineal ring complete the fixation part of the splint. The straps in the foot-piece buckle to adhesive straps attached to the leg, which make longitudinal traction. The strap lashes the leg to the splint, making lateral traction precisely as the abduction bar acts in Fig. 2. An ordinary blacksmith can construct this splint.

Figs. 6 and 7 illustrate the anatomy of the muscles surrounding the hip joint. These muscles, when affected by spasm, act in a line parallel with the axis of the neck of the bone, hence the necessity of lateral traction to overcome intra-articular pressure.

Before these splints are adjusted, however, the patient should be treated in bed until deformity is overcome and the active stage of the disease is somewhat modified.

To conclude, my observations lead me to believe that the most serious element of destruction in hip-joint disease is the trauma and pressure produced by the spasm of the muscle; that fixation of the joint without extension is an impossibility; that the successful treatment of the joint must depend upon its absolute immobilization, which can only be produced by proper extension and fixation; that the constitutional treatment of hip-joint disease amounts to but little, independent of mechanical treatment; that mechanics is everything; that *extension in a line with the axis of the shaft and deformity alone, in hip-joint disease, is entirely wrong*; that extension should be made in a line parallel to the axis of the neck—in other words, two lines of extension—otherwise the idea of extension is not perfectly carried out; that ankylosis of the joint is not produced by immobilization, but by the severity and character of the inflammation; that the long traction hip-splints in general use neither properly extend nor immobilize the joint; that intra-articular pressure results in the destruction of the joint or ankylosis in a large percentage of cases is proved by statistics; that the results in hip-joint disease should be as good as those of knee-joint disease, and will, provided perfect immobilization can be carried out; that patients should never be allowed to step upon any portable apparatus; that a high shoe on the well leg and crutches should be insisted upon until the patient is cured; finally, that the angular deformity seen in cured cases should not occur, and such cases are a standing rebuke to the splint and methods employed. In other words, no patient with hip-joint disease need ever recover with angular deformity. In exceptional neglected cases of dislocation, a slight amount of deformity had better be left than resort to osteotomy.

62 East 34th Street.

DISCUSSION.

DR. V. P. GIBNEY, New York, N. Y., also present by invitation, remarked that Dr. Phelps and he agreed on so many points brought out in the remarks just made that he scarcely knew what had been omitted. With reference, however, to the great importance of early diagnosis of tubercular hip-joint, he might add a word to give emphasis to what had been said on the subject. Many diseases simulate the early symptoms of tubercular hip-joint in its developing stage. Perhaps the commonest of these simulating troubles is hysterical spine, and some times it requires delay in attempting a differential diagnosis. Do not forget that hip joint trouble may occur in those having an hysteri-

cal tendency. It may be all right to suppose a case of hysteria to be one of hip-joint disease, but much damage might be done to a tubercular joint if the diagnosis be simply hysterical joint. In both there may be tonic spasm of the muscles, pain on motion of the joint, and tenderness on pressure about it. But usually the amount of hyperæsthesia of hysteria is much greater than is seen in hip disease, and deformity generally manifests itself much sooner than it appears in true bone disease. Points of spinal tenderness on pressure favor hysteria. In hysteria, muscular contractions cause flexion and adduction of the thigh, but not usually outward rotation. Tenderness is most marked in hysteria on pressure over the muscles about the joint rather than over the trochanter. Atrophy of gluteal muscles is rare. The usual history is about this: A child goes in bathing in cold water. Joint symptoms develop the next day. Apply a fly-blister over the nerves supplying that joint, and relief is usual. Such cases generally occur in children having a rheumatic history.

Other conditions from which tubercular hip-joint disease are to be differentiated are: Contusions and sprains; muscular rheumatism; neuroses of hip; infantile spinal paralysis [polio myelitis]; periarthritides; bursitis; acute synovitis; periostitis of hip; ostitis of the ilium, including sacro-iliac disease; and vertebral ostitis. These conditions for differential diagnosis are simply named as important matters, without, however, going into details about them.

DR. HUNTER MCGUIRE, Richmond, Va., is satisfied that fixation does not destroy joint motion. He recalled a case in which the jaws had been fixed for about twelve years; and yet when the splints were finally removed, there was no ankylosis. The device shown by Dr. Phelps for fixation, rest, and extension, is ingenious, and, no doubt, useful. Dr. McGuire, however, has put his patients to rest in bed, and used the old-fashioned pulley a while to secure and maintain extension. He so applies the apparatus as to extend by pulling, while he also uses a little lateral extension to prevent pressure of the head upon the acetabulum.

DR. CHAS. POWERS had put up, and reported 50 cases of fracture involving the elbow joint in the Chambers Street Hospital in plaster of Paris dressings for weeks; but in only one case, which was compound comminuted, had he had ankylosis as a result. In fact, such ankylosis he does not now attribute to the fixation treatment, but to the nature of the fracture.

DR. PHELPS, in concluding the discussion,

thanked Dr. Gibney for his kindly criticisms. He wished, however, to emphasize the great wrong in resorting to the use of anesthetics to secure a diagnosis. They benumb sensation and disguise all the symptoms one wishes to examine into. The eight cardinal signs and symptoms of hip-joint inflammatory disease are: Pain, heat, swelling, pain on joint pressure, limited motion, atrophy of muscles, deformity, and spasm of the muscles.

ACUTE APPENDICITIS IN CHILDREN, WITH REPORT OF CASES AND REMARKS*.

By EDWARD MCGUIRE, M. D., Richmond, Va.,
Professor of Gynecology, University College of Medicine,
Richmond, Va.; Gynecologist Virginia Hospital, etc.

It has fallen to my lot to see a number of cases of appendicitis in children in the past few years. Some were of interest, which I will report briefly.

CASE I.—O. W., boy, age 7. Saw him eighteen hours after the first symptoms of pain. The boy stated that he had been injured in the abdomen while at play the preceding day. Temperature 102 degrees. General abdominal tenderness, more marked on right side. Pain in the epigastric region. These symptoms went on until the 8th day. Abdominal section revealed an abscess adherent posteriorly. The abscess was opened, and drained through the loins, and the abdominal wound closed. The appendix was not removed, and recovery was uninterrupted.

CASE II.—P. C., girl, age 4. Saw her a few hours after the commencement of the attack. Her mother had given her a purgative, which I repeated, thinking the attack was due to indigestion from imprudence in eating fruit. Pain was in the epigastric region. There was no tenderness or nausea. The next morning a tenderness was marked in the right iliac region. Increased rigidity on that side. The pain throughout the attack was referred to the epigastrium. Diagnosis of appendicitis made, and operative interference was suggested and refused. The symptoms continued with exacerbation until the 9th day, when the parents saw the child would die unless something was done. They wished another consultant; he opposed the operation, saying the child would die either way. At last consent was given, and the operation revealed an adherent abscess,

*Read before the Medical Society of Virginia, September 1st, 1898.

which was opened and drained. The appendix was not removed. Recovery was uninterrupted, except an acute nephritis, which lasted a week—the result, perhaps, of septic absorption. There was no recurrence of trouble after the operation. At the time of the operation, the temperature was normal.

CASE III.—W. C., boy, of North Carolina, age 8. Fifteen days had elapsed since commencement of attack. While he was on his way to the hospital for operation, his accompanying physician thought he would die before he reached Richmond. When I saw him, on his admission to the Virginia Hospital, his pulse was about 140, and feeble; incessantly gulping up dark fluid; face pinched and drawn; abdomen very distended; obstruction complete; every indication of peritoneal sepsis. Section revealed a large abscess, filling up the pelvis and reaching up to the umbilicus, covered with matted coils of intestine and septic peritonitis. Realizing there was no chance to enucleate the abscess wall, I carefully and gently tried to find a point adherent to the abdominal parietes. In doing so, the abscess ruptured. I then attempted to enucleate it, which was most difficult, requiring extensive resection of the gangrenous bowel. The child never reacted, but died five hours later. I considered this case hopeless from the beginning, and so informed his physician before the operation.

CASE IV.—C. S., girl, age 8. Commencement of attack five days previous to entrance in the hospital. When I saw her she was in a profound septic condition; pulse about 140; very feeble; face pinched and drawn; abdomen enormously distended; complete obstruction. Section disclosed diffused septic peritonitis; intestines removed, wiped and washed thoroughly; necrotic appendix removed and thoroughly drained, extending in different directions through the abdominal cavity. She died the next day.

CASE V.—F. S., girl, age 5. Had three well marked attacks of appendicitis, one attack lasting ten days before the symptoms subsided. An inflammatory mass distinctly felt in the right iliac region. Symptoms never acute, but section about ten days after the last attack revealed an inflamed appendix, somewhat thickened with adhesions. Recovery rapid and uninterrupted.

CASE VI.—E. R., boy, age 9. Brought to the Virginia Hospital with the history of the attack commencing five days previous. General condition good. Temperature 102 degrees. Some distension, and marked tenderness in

right iliac region. Mass distinctly felt. Operated on one hour later; found a necrotic appendix surrounded by small abscess, containing two ounces of pus. Adhesions were bad. Removed about three inches of the omentum, and the necrotic appendix. Drainage was used, and uninterrupted recovery followed.

CASE VII.—Boy, age 5. I report because of the obscure symptoms, but it was not my case. His physician, who had left the city, had seen him the two preceding days without arriving at a diagnosis. I was called in during his absence. The child had been taken sick on Thursday. I saw him the following Saturday evening, and, knowing nothing about the case, I examined him very carefully. His physician—a very skillful one—told his parents that he thought it an attack of acute gastritis. The child was vomiting incessantly; temperature, 103 degrees; delirious; face very much flushed; tongue red and dry. He had never complained of any pain; bowels had moved regularly. I examined his abdomen most carefully. There was no muscular rigidity or swelling. The appendix could be pushed backwards against the spine, without eliciting any discomfort. There was no evidence of any abdominal lesion. I was inclined to think the condition was of cerebral origin. His physician returned on Monday, and took charge of the case. On Wednesday, the first symptoms of appendicitis developed. The surgeon told me he found a gangrenous appendix surrounded by a small abscess. The child recovered.

CASE VIII.—H. M., boy, age 10. Had been sick about a week when he entered the hospital. His temperature had been high until the day before entering the hospital. At the time of the operation, it was normal; abdomen distended; large mass in the right iliac region. Operation revealed a large abscess attached to the abdominal wall, which was drained. Appendix was not removed. Recovery uninterrupted.

CASE IX.—S. P., boy, age 11. Saw him shortly after the attack commenced. His mother had already made a diagnosis. The case was a typical one; fever reaching only once as high as 103 degrees. None of the symptoms were wanting. After 24 hours, I advised operative interference, which was refused. In 48 hours the boy was convalescent. This is not the only experience of this character I have had. It has happened to me a good many times.

Appendicitis in children, before the age of four years, is very rare. One case so young as seven weeks is reported by Deeme. Matter-

stock and Fitz each report a case of 20 months. Fowler operated successfully on one of 23 months. After the fourth year, it is a very frequent occurrence through childhood, but especially so after the 10th year. Of 104 cases, three were under three years, forty-seven between the 4th and 9th years, and fifty-four between the 10th and 14th years.

The influence of sex on appendicitis holds good in children as in adult life; of 101 collected cases under fifteen years, 72 were males and 29 females. Fowler states, from his experience of all cases seen, the proportion of males and females was about the same. The natural death-rate in children, from appendicitis, is higher than in the adult, and varies, according to different authors, from 25 to 45 per cent. I am sure these statistics are too high. A great many cases that end in resolution are overlooked; or, if diagnosed, are called acute indigestion, colic, "bilious attack," etc. This error in diagnosis was especially frequent previous to the last five years. I am sure I have made this mistake in the past. In the incipency, the symptoms are identical with those of acute indigestion, perhaps so for the first 12 or 24 hours, and we are all aware of the magnitude, the variety, and the numerous symptoms this little condition may produce. That the symptoms are ephemeral in character, is an important point in the diagnosis.

Holt, in his work on Children, states that of 112 cases, there were 62 recoveries and 50 deaths—a mortality of 45 per cent. In 43 fatal cases, nearly all died of general peritonitis. Six died in the first three days; 19 from the fourth to the seventh day, 13 in the second week, and 5 in the third week. He also affirms that recurrence is not so frequent in children as in adults—it being noted in only two cases of this series. The younger the child the greater the danger.

Mattenstock reports that, out of 12 patients below the age of six, 11 died. Between the ages of six and ten, the prognosis is more favorable—24 cases, 15 deaths.

The intensity of an individual symptom is more marked in children than in adults, but these individual symptoms are as easily misleading in some cases. This is probably due to the greater impressibility of the general and nervous systems of childhood, and to the lack of proper discriminating powers to analyze the symptoms. The physician who looks and waits for the typical symptoms of appendicitis will frequently err in his diagnosis, and he who asserts that it is always easy to diagnose it displays his ignorance and a lack of very much

experience of this disease. This remark holds good in the adult as well as the child. The case reported as No. 7 and the following, bears out this statement:

I was called to see a case on June 29th, at 10 P. M., in consultation. The physician stated that six days previous he had been sent for, and made a diagnosis the next day of a slight attack of appendicitis; so slight were the symptoms that it was not believed by the family. In three days, all the symptoms had disappeared. There was no fever, no pain, no tenderness, and the pulse was slow and normal. He thought the patient convalescent. This condition continued until the night I saw her. The first symptom that alarmed him was that the nausea returned, and the pain on the right side located a little above the right nipple. On examination of the abdomen, I found there was no tenderness over the appendix, no lump, no rigidity, no abdominal distension, no fever, no pain, and pulse 70. There was not one local symptom of appendicitis. She complained of pain near the right nipple, intensified with respiratory movement, similar to that of pleurodynia or pleurisy. She also complained of a violent pain in the top of her head. Her facial expression was not good. Relying chiefly on the early history of the attack, I stated, as my opinion, that the appendix was the cause of the trouble; and advised, if she was not better in the morning, that she be removed to the hospital. The same conditions were present in the morning and at the time of the operation. I found a gangrenous appendix imbedded in a mass of infected adhesions, which were removed. When she awaked from the chloroform, the pain in the chest and head had disappeared. Her whole system was saturated with the toxins, and she succumbed from suppression of the urine and sepsis.

We all know that the diagnosis in typical cases is based upon—1st. The suddenness of the attack; 2nd. The presence of abdominal pain; 3rd. Tenderness and muscular rigidity in the right iliac region; 4th. Some nausea attending and following the pain, and in a large number of cases some febrile disturbance. The first condition is applicable to nearly all abdominal troubles. The second condition—or abdominal pain—is more variable. In the majority of cases, it is referred to the umbilical region, or epigastrium; afterwards, it becomes more centred in the right iliac region. Pain is a very variable symptom as to its location and intensity. It may be referred to any portion of the abdominal cavity—to the chest or to the lumbar region—on account of

the extensive distribution of the abdominal sympathetic system. Another reason why its location is variable is that the position of the appendix is not constant. It may lie to the inner side, to the outer side, or behind the cæcum. It may be directed downward to the right iliac fossa, or upward to the right kidney behind the liver, or may extend across the abdominal cavity. I have seen these positions present in appendicitis. Pain is variable and misleading. It may be violent, or may be so slight as not to deter the child from playing. It does not indicate the pathological conditions present. It may be intense in a case of slight catarrhal appendicitis, and absent in a gangrenous appendix. I remember seeing a case in consultation, in which a boy was skating at 11 o'clock the night before, was operated on the next morning, and a perforated appendix and an abscess holding 3 oz. of pus with extensive adhesions were found. Local tenderness in the right iliac fossa is almost a pathognomonic of appendicitis, as is the rusty sputa of pneumonia. At first, the area of tendency may be large, but soon becomes more centred, corresponding to McBurney's point. This is not by any means constant. It varies with the position of the appendix. I have seen it in the lumbar or epigastric region, and in one case, with a long appendix, some distance to the left of the umbilicus. Again, tenderness may be entirely absent. A case, with complete gangrene of the appendix, may be free from pain and tenderness, because it is dead, nerves and ail.

Muscular rigidity is usually present, but it is not equally prominent in all cases. This rigidity is more marked on the right side, and, in the majority of cases, lessens or disappears in a day or so. The prominence of this symptom seems to have some relation to the proximity of the inflamed appendix to the anterior abdominal wall. Care should be taken not to mistake rigidity of the muscles for a tumor. Anæsthesia is a valuable aid, especially with children, in this examination. As it disappears in about two-thirds of the cases, a tumor, with or without pus accumulation, is frequently found in the right iliac fossa, formed from either the plastic exudate, or agglutination of the omentum and intestines. It varies in size and position.

Nausea is usually a more prominent symptom in childhood than in the adult. It is not continuous. The acuteness of nausea occurring later in the disease often marks the advent of perforation and onset of septic peritonitis. Fever is nearly always present in the earlier stage

of the disease, and is higher than later. It does not indicate the seriousness of the condition. A slight catarrhal appendicitis may produce a temperature of 104° F. Again, it may be absent or subnormal in the more serious forms. I have seen cases with a gangrenous appendix, or an abscess containing from a pint to nearly a quart of pus, with little or no temperature. The pulse is a far better indication of the gravity of the disease than the temperature, though both may be normal in a gangrenous appendix, when the toxins are not escaping into the system. The facial expression in the milder cases, and even in many of those when localized suppuration occurs, is not marked on account of a protective appendicitis. The toxins are not, or, if so, are slowly absorbed. In the severe conditions, when there is a gangrenous appendix, and the toxins are being rapidly formed and absorbed, as in the fulminating form with septic peritonitis, the face is often the greatest indication of the condition. There is one potent fact, and it should have great weight in dealing with the diagnosis in children. It is that an acute peritonitis very rarely ever occurs in childhood from any other cause than appendicitis. The same holds good in the adult male. It is therefore right to indict the appendix in all peritoneal inflammations, unless other determining causes are well established.

In my remarks I have considered the subject briefly, and have omitted many of the minor symptoms of appendicitis; nor have I grouped those belonging to the different forms and complications. They are numerous and confusing. I have considered it from a clinical experience, and have endeavored to show that, while a large majority of cases are typical and easy of diagnosis, there are many that are atypical and perplexing to the diagnostician. What is still more important is that, in a large number of cases, no one symptom, or aggregation of symptoms, nor is there any amount of clinical experience or ability as a diagnostician that will enable a surgeon to foretell the consequences or to recognize the true pathological conditions in the case of appendicitis. It is the recognition of this fact that has induced so many surgeons to endorse early surgical interference in all cases, as soon as the diagnosis is made, or even in the obscure ones, where the appendix is indicted on suspicion only. Medical authors on children are adopting this view.

Rotch, in his work on *Pediatrics*, says that appendicitis is essentially a surgical disease, and is one which should be placed immediately

in the hands of one skilled in abdominal surgery. Again, he says that the prognosis is very favorable if operative interference is instituted early.

Hare states that the case should be viewed as one likely to become surgical at short notice, and as soon as the diagnosis of progressive appendicitis is assured the abdomen should be opened; that a case not well on the road to recovery at the end of the first day should be deemed progressive, and subjected to operative interference. At the same time, he recognizes that septic peritonitis may ensue from a very virulent infection before there is either perforation of the appendix or rupture of the abscess cavity.

Holt, in his book on *Diseases of Children*, claims that in the majority of cases it is a surgical disease, and that many cases have been needlessly sacrificed because surgical interference has been delayed.

We know, in cases treated medically, the mortality depends on the virulence of the infection. In those treated surgically, it is in proportion to the delay in instituting operative interference. We are aware that a great many mild cases recover, but also know that a large number are lost, both with and without the operation, that were mild cases in the beginning. Simple cases have a low death rate medically treated, but a still less one surgically. Grave cases have a high death rate medically and a small one surgically, if operation is not delayed.

Taking this view of the subject, it is true that we may operate in some cases unnecessarily, but it is far better to do this than to operate unsuccessfully. A comparison of statistics, as regards the percentage of recoveries by the two methods, is unfair, because a large number of cases referred to the surgeon are grave cases that have been treated medically with failure, and, as a last resort, seek surgical interference. Again, the percentage of successes reported by individual surgeons is misleading. The surgeon may refuse to operate in bad cases which he thinks are likely to die, because he does not wish to injure his statistics. I have heard of this being done. The surgeon who operates on a grave case—that is, one of the perforative and suppurative variety, with bad adhesions—and saves the life of a patient, deserves more credit than the operator who saves nineteen out of twenty simple cases. The operation may be one of the simplest in surgery, or may be the most difficult. The pathological conditions to be met can never be foretold. It is impossible to impress upon the

laity this fact, as well as upon a great many physicians. Again, a surgeon may refuse to operate in a desperate case that he considers has been seen too late, *pro bono publico*; it certainly has a great weight with the laity, and is likely to induce the physician, who may have been prejudiced against operative interference, to refer his cases earlier to the surgeon. Perhaps more lives in the end may be saved by refusing to operate in such a condition, but I could never bring myself to adopt this idea, as some of the most desperate cases recover after operation. I remember a case lately that was brought to the Virginia Hospital in such a condition—complete obstruction for two days; enormously distended abdomen; pulse rate high; with an incessant gulping vomit; every indication, I thought, of septic peritonitis. Still, this patient recovered after the operation, though it required intravenous saline infusions to keep him alive during the operation.

The operative technique in children differs in no essentials from that in adults, and therefore will not be considered. Each case must be dealt with individually, as the experience of the surgeon dictates, there scarcely being any two cases alike. Time is an important element in dealing with these cases in children, more so than in adults, a prolonged operation greatly increasing the danger. In adherent suppurative cases, I do not think it necessary to attempt to remove the appendix, unless it is found floating or projecting free into the abscess cavity. Otherwise, the removal, or the attempt, may break down the barrier nature has so wonderfully provided. I have seen a large number of such cases, and have found no after trouble resulting from this method. It is remarkable to see what nature will do in removing the exudate that has been thrown out in these localized, suppurating, and plastic cases.

A short time ago I operated on a man for acute intestinal obstruction successfully. He had had suppurative appendicitis about a year previous, and had been operated on by one of the young graduates of the University College of Medicine, Dr. Davis. The doctor had only a storekeeper to give chloroform and aid him in the operation. A pocket case constituted his instruments. On opening the abdomen, I found a small band about an eighth of an inch wide across the ileum, about three feet above the ileo cæcal valve. On examining the site of the old abscess, I was struck with the small amount of adhesions present, which was easily broken up.

DISCUSSION.

DR. CHARLES D. BAKER, Rohersville, Md., present by invitation, said he was glad to see appendicitis so distinctly classified as a surgical disease. Only a few years ago, during the meeting of the American Medical Association in Baltimore, even the Surgical Section, or a very representative part of it, decided that it was a medical disease; now, however, it is being more and more regarded as a purely surgical disease. The high mortality of surgical cases is undoubtedly due to the lateness of the operation. It should be done as soon as there are the slightest symptoms of the condition. It is better to operate too early than too late. Opening of the abdominal cavity can be done now-a-days with but little danger to life. In fact, he thinks it almost criminal for the surgeon not to operate as soon as he has a reasonable ground for belief that the case in hand is one of appendicitis. He has often been struck by the fact that children stand such operations better than adults. He believes that abdominal adhesions should always be broken up and the appendix thoroughly removed. He does not believe that there is much danger of the great bugbear of hernia from free opening of the abdominal cavity, if the wound is properly brought together and sealed. The meso-appendix should be tied off, and the appendix dissected back to its junction with the intestine, and the Lembert sutures should be used.

DR. H. D. HOLTON, Brattleboro, Vt., present by invitation, remarked that in this day no one who had thoroughly studied appendicitis could doubt that it is a purely surgical disease. His first operation for appendicitis was on a patient refused treatment by a surgeon, who feared that he would die. While every available means should be adopted to satisfy us as to what the condition is, it is not always necessary to wait until the diagnosis is absolute.

DR. J. WESLEY BOVEE, Washington, D. C., remarked that of course operation should be done when it is possible to make the diagnosis of appendicitis early. But in mild catarrhal cases, where the diagnosis was rather suggestive than positive, he had not yet been bold enough to operate. Again, most of the cases he had seen in consultation were very bad fulminating ones. In such cases, he had often questioned the advisability of operating at all lest we bring surgery in bad repute in this disease. The statement made by Dr. Baker, that children stand the operation for appendicitis unusually well, is so widely at variance with

his own experience and that of his surgical friends, that he thought it well to make this note of the fact. He had noticed that children especially—more particularly when the cases are fulminating—do not stand abdominal operations as well as adults.

DR. H. STUART MACLEAN, Richmond, Va., said: I wish to emphasize one point of value in diagnosis and treatment. I refer to a count of the white blood corpuscles. In appendicitis, with pus formation, there is always leucocytosis, varying from ten thousand to fifty thousand white cells per c. c. This serves to differentiate from such diseases as typhoid fever, floating kidney, fecal impaction, ovarian neuralgia, extra-uterine pregnancy, and hepatic or nephritic colic, which are not accompanied by any increase in the number of white corpuscles.

In catarrhal appendicitis, the leucocytosis is not so marked, nor so regularly present, but it promptly appears as the catarrhal condition progresses and merges into the purulent form.

In cases where, for any reason, an operation cannot be performed, a count of the white corpuscles is valuable in determining both the extent of the disease and its probable termination. Successive blood counts afford a reliable index of the progress of the disease.

In cases where there is an abscess well walled off, the leucocytosis remains stationary. If the disease be progressing toward an unfavorable termination—i. e., increasing pus formation—the leucocytosis correspondingly increases, counts every two to four hours showing changes more or less marked, depending upon the rate of pus formation. On the other hand, if the purulent material is being absorbed, discharged into the bowel, or evacuated in any manner, the blood count shows an immediate diminution in the number of leucocytes, rapidly approaching normal.

DR. HUGH M. TAYLOR, Richmond, Va., said it was interesting to note the evolution of thought in this Society as regards operative interference in appendicitis. When discussed only a few years ago, opinion was almost evenly divided as to its being a medical or surgical disease, and as to the frequent or infrequent need for surgical interference, and very great diversity of opinion as to the time for operation. He thought the tone of the discussion, as then expressed, was striking in its contrast to that elicited by the paper just read.

A few years ago, when a distinguished surgeon expressed the conviction that the proper time for operative interference in appendicitis was not the next hour or day, but *right now*,

the profession was hardly prepared for such seeming radicalism. The idea that operative interference is indicated as soon as a positive diagnosis is made claims, we think, an increasing number of converts. This is largely due to the not infrequent uncertain course pursued by appendicitis; to our inability to anticipate what change an hour may bring forth—the subacute or chronic rapidly becoming acute, pus formations, with most significant symptoms, exceptionally a necrotic appendix, with normal temperature and pulse, with absence of muscular rigidity or any classical symptom of grave trouble. He would impress the idea that, at some time in the history of every case of appendicitis, it is a local infection, which calls for minor surgery for its relief, as compared to the almost forlorn surgery to relieve diffuse suppurative or septic peritonitis, and agrees with Greig Smith, who says, "It is forgotten that many of these cases, apparently originally simple, become suppurative, or even perforating; and that the death that is recorded is then not put down to neglect of a simple case, but to the progress of a suppurative one." He was conscious of the fact that he had operated unnecessarily, many times operated when it was too late, but never, as far as he could tell, operated too early.

Early operative interference is conservative in that it limits the amount of surgery called for. It was an injustice to the patient, to the surgeon, and to surgery to procrastinate until the patient is in extremis from ptomain poison. The operable stage of not a few practitioners is really a period which is too late, and the surgeon would, he thought, be justified in so informing those responsible for the delay. An uncomplicated appendectomy is minor surgery. To deal with matted bowels and circumscribed pus collections successfully calls for a perfected surgical technique, while the treatment of diffuse suppurative or septic peritonitis incident to appendicitis is an unsolved problem. In chronic, in recurring, and in the incipency of acute appendicitis, there could, in his opinion, be no question as to the needs of operative interference.

An open question is, What shall we do in cases of diffuse suppurative or septic peritonitis—cases rapid and virulent in their onset or neglected during the operable period? He would reiterate that these cases are not, in their incipency, diffuse in character. Through ignorance or misfortune, an elective period for operation has been lost.

He really did not know what to do for diffuse septic or suppurative peritonitis occurring

prior or subsequent to operative interference. He had routinely opened the abdomen, irrigated and riddled the peritoneal sac with tubular and gauze drains. He had incised the paretic and distended bowels, and essayed to empty and drain them; but these patients so uniformly died that he wondered if operation was justifiable. Exceptionally he has cases to get well, but it was discouraging work. Of course, in all such cases, the benefits of purgation and saline infusion was sought, and he had even used the anti-streptococcus serum. As such cases exceptionally recover as a result of surgical aid, and are inevitably doomed without it, it was our duty to operate in spite of the forlorn outlook. When a distinguished New York surgeon recorded an experience of about sixteen recoveries in twenty-four cases by irrigation and multiple drainage, he (Dr. Taylor) took courage; and he also was benefited by the recorded experience of another distinguished surgeon, who saved a number of cases by wiping and washing every foot of the intestines. These last cases, however, seemed to him, from the published reports, to have been cases of fibrino-suppurative rather than virulent diffuse septic and suppurative peritonitis—a less virulent type. He is impressed with the idea that Mr. Treves is right when he claims that we have only done part of the work needed when we flush and drain the peritoneal sac, because the distended, paretic bowels constitute, in that condition, another inert sac, full of septic material, and a focus of infection. Normally, the intestinal tract is a great sewer, but only as live structure; when paralyzed and inert, each coil is so much space for puddling. Any one who has attempted to empty such coils by puncture or incising them, must have been impressed with this idea. Mr. Treves urges that the intestines should be incised and emptied of their septic contents, and Greig Smith advises, in grave cases, that a loop of bowel be fastened to the parietal incision, opened, and a drainage tube be introduced into the lumen of the bowel. Dr. Taylor had practiced conservatism in such cases, and had practiced the seeming radicalism advised by Treves and Smith, but with disheartening results.

Dr. WM. T. OPPENHIMER, Richmond, Va., is satisfied that bowel indigestion is the principal cause of appendicitis. The ferments and ptomaines thus developed are as apt to be passed through the lumen of the appendicular orifice as anywhere else, unless the bowels are kept sluiced out by salines or other purgatives. As to operation, he has been struck by the fact

that some purulent cases of appendicitis present absolute occlusion at the entrance into the cæcum. The inflammatory action around the ostium results in adhesions—completely stricture the lumen so that neither fluids nor gases can pass in or out. He has even cut off the appendix without first tying it off, and has had no cause to regret so doing. Possibly some may think this a dangerous procedure. But if any have had like experience, he would be glad to know what the results in their cases were.

DR. GRANDY, Norfolk, Va., has several times found tight stricture at the juncture of the colon with the cæcum, due to inflammatory products of appendicitis. Of course, the adhesions take place through the inflammatory adhesions of the mucous membrane. But he has no experience with the non-ligature plan of treatment.

DR. HERBERT M. NASH, Norfolk, Va., said it is all very well for surgeons having hospital advantages at hand to talk about hasty operation for appendicitis, but such practice will not do for the masses, as met with in private practice, who have neither the means nor opportunity to become hospital patients. He is, therefore, opposed to this continuous advocacy of indiscriminate operation. Off in the country, when the indications point to beginning involvement of the cæcum and appendix, the use of salines, the local application of cold, as by ice bags, and trusting to the *vis medicatrix naturæ* is generally the best treatment. If such a line of treatment is promptly and faithfully carried out, we are not apt to have suppurating cases. As a rule, he thinks we should wait for a distinct demand for surgery before resorting to it. It is all right for the physician to keep a reliable, conservative surgeon in consultation [when such can be done] in cases of appendicitis. But do not let him operate until medicines fail of benefit, unless, of course, there are indications distinctly requiring it, as in suppurative cases, etc.

DR. J. ALLISON HODGES, Richmond, Va., remarked that there is danger of the evolution of opinion going too far in favor of immediate operation in all cases as soon as diagnosis is made or seems probable. He is afraid to operate every time he diagnoses appendicitis, for "striving to better oft we mar what's good." He agrees in the main with the views expressed by Dr. Nash. Young practitioners should be warned that all cases of appendicitis do not need surgical interference—that, in the incipency, many cases get well on the line of treatment just suggested by Dr. Nash.

DR. HUNTER MCGUIRE, Richmond, Va., of course believes in the advisability of operating immediately when operation is needed. But there are many cases—perhaps a majority of them as they come under the eye of the doctor—in which it would be well to wait until we see that medicines are useless, and that the only recourse is surgery. He can hardly define in words what should determine us to wait awhile or to operate at once. It is the experienced eye which catches the general expression about the face, etc., that helps wonderfully in deciding whether to operate or not. It is wrong, and a dangerous doctrine to inculcate in the minds of young doctors that they must operate immediately and in every case. Such ultraism is far more dangerous than conservatism. Dr. Nash has said that it would be well for physicians having charge of cases of appendicitis to keep a conservative surgeon in consultation. It is just as important that the reckless, ultra surgeon should keep a conservative physician in consultation with him in many cases of appendicitis.

DR. BAKER asked for an opportunity to explain himself—fearing that his remarks just now were misunderstood. He has operated about a hundred times for appendicitis, and has in only one case operated and not found appendicitis. He thinks it unfortunate, however, that we ever have a rationally suspected case of the disease to get well without operation, because it so generally happens that relapses occur which finally succumb. Had the operation been done in the primary attack before the surrounding tissues had become likewise involved, as is almost universal in relapsing appendicitis, cures would have resulted under the improved technique of to-day. Certain it is that the consensus of professional opinion now is that the disease is a surgical one. His intention, in his first remarks, was to advocate operation in every case where the symptoms and signs justify a reasonable diagnosis of appendicitis. Every man, however, is not at times situated for a satisfactory operation, and he would not therefore advise operation in every case.

DR. EDWARD MCGUIRE felt complimented by the excellent discussion which his paper had brought out, and would not occupy more of the time of the Society in making other remarks.

POST-OPERATIVE SEQUELÆ OF BOTH SUPRA-PUBIC AND VAGINAL EXTIRPATION OF PELVIC VISCERA.*

By JOSEPH PRICE, M. D., Philadelphia, Pa.,
Honorary Fellow of Medical Society of Virginia, etc.

It is very difficult to consider some of the opinions of recent adoption by surgeons with a judicial temper and impartiality. These differing opinions have a surgical importance. They raise problems, and their discussion will not and should not down until satisfactorily settled. Many of these opinions would have little weight were they not shared by some of the leading men—those who stand as the exponents of the most advanced thought and enlightened opinions of the profession. While these differences of opinion on the part of thoughtful men serve to stimulate investigation and the careful noting of the facts of experience, yet where they are little more than evidence of vacillating surgical judgment they are obstructive.

If my own views are distinct and have something of a dogmatic ring, it is because they are views forced upon me by actual experience and observation. Experience alone can give us a logical understanding—enable us to speak with something of practical wisdom of those troubles with which we have to deal.

Many practicing the vaginal operation have the impression that the operation has not been universally adopted because physicians do not understand it—that it is difficult, dangerous, or impossible in their hands; that it requires for its successful performance a peculiar aptitude, a special training and adeptness. This is a mistake. A number of men who oppose the vaginal operation have done the operation successfully; their mortality has been quite as low as that of those who advocate and make the procedure their adopted one. They do the supra-pubic influenced by the logic of their experience, by purely surgical and pathological reasons. It is the operation of their choice because it gives the most complete results—leaves less dangerous or annoying sequelæ; less risk of the necessity of repeated operations. By the supra-pubic route, surgical cleanliness and surgical completeness is possible; by the vaginal, it is not.

The difference between the advocates of the abdominal method and those who criticize it is that the advocates speak according to their

knowledge—the facts actual clinical experience has confirmed; the critic according to his failures, disappointments and prejudices. The one has uniform success sustaining him; the other, humiliating failures which inspire and give coloring to his opinions. He attacks the wisdom of a procedure which in his hands has failed, rather than put in serious question his own art and science, and with patient and keenest scrutiny search for the mistakes in use which are the causes of his failure. The truth is, he adopts the typical motto, "I have not been successful with this method; I will try something else." His early efforts in supra-pubic work were failures or disasters; he met with the unexpected; he found the work complicated and difficult. He is disappointed, discouraged, and thirsty; goes to the continent, and comes back loaded. The French and Belgians never were successful in supra-pubic operations. The successful operators—American, English, and German—have practiced both methods for years, adopting the supra pubic procedure for tubal and ovarian disease, and the vaginal route for malignancy. The results of these men are uniformly good, they adapt their operation to actual pathological conditions; they operate for actual disease, and not for all sorts of fancied conditions, for vague nervous disorders due frequently to emotional susceptibility.

It is simply amazing how common it is with some operators to begin two distinct operations and complete neither. We see good operators make a free opening in the abdomen, inspect, and back out, and then attempt the vaginal route and abandon it after puncture of one or more accumulations and drainage. They attempt the vaginal route to extirpate, but do not do it; they end with mere puncture and drainage, and the temporary relief is called a cure. The drainage of one or more pus pockets where many exist in a large tortuous puriform tube or tubes, and where we have one or more ovarian abscesses, never cures; the only cure is the removal of the diseased member.

We need only appeal to actual clinical facts in the experience of some of our prominent vaginal operators to show how difficult and incomplete their work is when they encounter deep-seated and complicated conditions, and in how very many cases the result is fatal. For instance, Dr. Mann, of Buffalo, invited three prominent operators—two from abroad and one of our own honored countrymen—to do three complicated operations. Second did one, Jacobs one, and Sutton one. They all died. In relation to results from any proce-

* Read by title during the Twenty-Ninth Annual Session of the Medical Society of Virginia at Virginia Beach, Va., August 30, 31, and September 1, 1898.

dure, no reliance can be placed in the statistics of men who select only favorable cases for operation and reject the unfavorable. These men have no right to compare their results with those men who do not reject the desperate cases. There is something vicious in the criticism of the statistics of the mortality of operators who give every patient who comes to them every possible chance of life, who do not reason—"This is easy; I will do it. Here I have something involving a number of vital organs; the adhesions are general—everything is matted and bound together; the surgery is difficult and the result doubtful; some one else can do it."

Our judgment in the matter of selecting a procedure in any given case is strongly influenced by our successes and those of others. We are slow to abandon that which we have found safe—strongly indisposed to believe there is a better way.

This is one form in which our conservatism finds expression. But the fact remains that there is one way better than all other ways; it is the one way we conscientiously and zealously seek to find. We cannot safely lay down and mark out dogmatically any procedure which in none of its details is to be departed from. In applying a particular procedure to a given case, we may get approximately perfect results, but in no two cases, in our surgery, while we may find similar, do we find identical conditions. The most skilled operator never knows until he enters the abdomen the exact and entire conditions with which he will have to deal.

Some years since a gentleman, in Washington, went so far as to say that, after incision and drainage by vagina, in a case of double pyosalpinx, recovery had followed, and the woman had borne children. He might as well have said she had conceived, notwithstanding her husband had been castrated.

The beginning of our trouble in the choice of methods of procedure lies in errors of diagnoses. Our surgery would be more judicious and successful if more care and skill was exercised in determining definitely the trouble for which we operate and strictly adapt our procedure to actual conditions. We do not say that any one method should be pursued in all cases; symptoms and conditions must largely guide in the selection of a procedure.

It is important to select with great care the cases favorable to the application of any particular method. As an explanatory operation, the vaginal route has none of the value claimed for it.

If the ordinary or common symptoms of disease are absent, if there is no evidence of growth, no evidence of fixation, there is not the slightest indication for an exploratory operation from either above or below. We hear too much of exploratory operations. Men familiar with the symptoms of abdominal troubles rarely resort to them; they operate only when there are marked symptoms of trouble, and they about always find trouble, repeatedly greater trouble than they anticipated. It may not be the exact trouble they diagnosed, but it is a surgical trouble requiring, in many cases, difficult surgery in its removal. The exploratory operation is an unnecessary infliction of suffering.

Goodell, Battey, Gaillard Thomas, and other prominent operators, determined the value of the vaginal route for the removal of small growths by repeating it after a fair trial.

Vaginal drainage is not the most perfect, has never given the best results, because abnormal conditions existing above have not been given sufficient attention to favor drainage.

As to the claim that there is less shock by the vaginal route, I will again refer to the three deaths in three cases respectively in the hands of three deservedly eminent surgeons.

Notwithstanding all the machinery and manipulation used by the vaginal advocates, there still seems to be an element of doubt or uncertainty in their faith; they tie vessels and they clamp them for thirty-six hours. If the tying is all right, they do not need to clamp. If the clamp is all right, they do not need the ligature.

The claim that risks of infection by soiling the peritoneum are minimized is an error. In many cases of pelvic suppuration we find quite general infection and peritoneal soiling, and it is in this great group of cases that the peritoneal toilet has great value. There is no excuse to be made for bowel trauma where adhesions are to be freed and bowel repaired.

Sinuses are just as frequent and distressing in the vaginal vault as in the abdominal incision. Menopause nervous phenomena are about the same in both procedures when completed.

Some of the prominent operators by the vaginal route urge the removal of the uterus because of its numerous lesions; this is an error. The lesions are commonly found to be of viscera and surrounding organs. In extra-uterine pregnancy, the sac is frequently found adherent to the uterus, but is easily stripped from it by the abdominal route, and the uterus

remains healthy. We also find lesions of the tubes and ovaries and peri-uterine disease. In ectopic pregnancy the simple removal of the offending side leaves a healthy child bearing woman. Tubal and ovarian disease is so frequently associated with the early development of multi-nodular fibroids that I am convinced that tubal and ovarian disease bears a strong causal relation to fibroid disease. Nearly all working by the vaginal route admit the great danger of subsequent fistula, and classify as follows: 1st, Peritoneal fistulæ; 2d, vesical fistulæ; 3d, urethral fistulæ; 4th, intestinal fistulæ.

In a series of four hundred and three cases of vaginal hysterectomy, including about all the conditions for which it is done, total general prolapses, etc., Jacobs had nine fistulæ after the operations; yet he said, "Subsequent fistulæ are exceedingly rare"—although he has "observed five intestinal, three vesical, and one urethral fistulæ." Further he says, "in most of the cases these fistulæ existed prior to the operation; that is to say, they were fistulous passages which extended between the purulent foci and some part of the intestine. These passages were so large, and with walls so well organized that the disappearance of the purulent pockets did not suffice to bring about the subsequent and spontaneous cure."

In all such cases I relieve all adhesions, trim and repair all lesions with the most pleasing results, without any of the sequelæ of fistulous openings given by Jacobs as following the vaginal procedure. Operations for the closure of such fistulæ are generally admitted to be the most trying, complicated and tedious in surgery; but few men are willing to attempt them.

Where the conditions are obscure, when signs and symptoms are not positive, the suprapubic route is the safe route.

Imperfect and incomplete work by the abdominal route is a feeble argument in favor of the vaginal. The fault, where fault there is, is not in the procedure, but in the operator—his lack of wide clinical experience in dealing with gynecological troubles, or lack of the surgical courage to complete the work he begins. And the lack of discreet courage and sound surgical judgment is responsible for many failures, whatever the procedure.

If complications make conditions inoperable from above, they also make them inoperable from below. The removal of pathological conditions is easier from above than from below, because the structures are more easily defined and lines of cleavage or enucleation are from important structures, and not toward them or into them. There is no difficulty in

securing arteries; they can be seen and felt pulsating beneath the fingers. The operation is precise; it can be made of mathematical certainty in its limits; the incision is directly under the eye and under the absolute control of the fingers; it is not a stab about in the dark among vital organs, as in the vaginal method; it enables the easy freeing of omentum and bowel when adherent, and the repair of all disorganized parts. These are important considerations.

Careful examination of statistics coming from reliable sources go to show that abdominal pain continues in very many cases operated upon by the vaginal route, and follows too many imperfectly, incompletely and ignorantly operated upon by the supra-pubic method.

These disagreeable symptoms complained of by patients after operation are about always the result of leaving omental and intestinal adhesions. Where all adhesions are carefully and thoroughly separated, continuous abdominal pain, rendering the patient's existence miserable and disabling her for useful employment, will not follow. Frequently, when we are searching for lesions, we only find general adhesions of the whole mass of intestines; thoroughly separating these, we set the patient on the way to happy recovery.

Badly selected material has been responsible for much post-operative sequelæ, primarily for a number of deaths. Ligating with coarse and heavy ligatures makes insecure work. Ligating pedicles with plaited ligatures is commonly followed by hemorrhage. It is difficult to tie a surgical knot tightly and securely with large, coarse material. Commercial articles are never safe materials. Surgeons should select and prepare their own materials. Those who do so soon recognize the difference in results. Ligatures sometimes break from having been soaked in some antiseptic solution. The use of improper materials results in adhesions and pathological conditions that did not exist before the operation.

The long incision, imperfectly closed, favors long and needless exposure. Excessive manipulation and the use of irritating chemical solutions all result in omental, bowel, and other adhesions, from which the patient continues to suffer if not relieved by repeated operations. Silver wire, silkworm, chromocized catgut, plaited ligatures, and all large materials, result in abscesses and adhesions—give us all the vicious sequelæ of dead ligatures surrounded by filth. Some good surgeons have used the silver wire about the pedicle in cystoma. A prominent operator told me he lost two patients

with abscesses at the seat of the wire six weeks after the operations. Some of the catgut ligatures used by Keyth were discharged through the bladder; I have known huge ligatures to be discharged by the bowel.

Dead ligatures and unclean operations, whether supra-pubic or vaginal, low or high, or whatever the character, are responsible for sinuses in numerous cases.

It is claimed by the advocates of extirpation that if suppurative forms of tubal and ovarian disease exist, or tubal occlusion with retention, not only the appendages are worthless, but the uterus is useless and infectious; that the septic uterus shall also be removed.

The profession is too prone to talk about the septic uterus: the patient with a septic uterus is a very ill patient and usually dies, and that speedily. There are few things that kill a woman quicker than a septic uterus. I am daily doing sections, and, while dealing with all sorts of complications and adhesions—dangerous twists and contortions, strong adhesions or fixation of crossed viscera, the sigmoid strongly adherent to anterior face of right tube and broad ligament, the cæcum and appendix out of position and adherent—yet I cannot but experience a sense of surprise that experienced surgeons, who have in the past done good abdominal or supra-pubic work, can forget or ignore the lessons of their experience and deliberately extirpate the little healthy uterus and pass by pathological lesions and complications constituting the real and only source of trouble. That is a pithy utterance of Dr. Bantock's: "In presence of chronic disease of the appendages, he was a wise man who refrained from active interference with the uterus."

The sterility of many wives is due to tinkering. I can recall the wives of many physicians whose sufferings dated from meddling surgery, dilatations, curettement, and the application of various chemical solutions. If they had never been examined and tampered with, they would have stood a good chance of having children.

The advocates of puncture and vaginal drainage methods commonly refer to maternity following their so-called conservative practices.

In the series of four hundred and three cases referred to, section is practiced in 1 per cent. for the cure of fistula, with one death. Jacobs records one hundred and fifty-seven cases of serious suppuration upon which he has operated, and that in twenty-one cases (about 13 per cent.), he left parts of the appendages in the pelvis, and that the adhesions of the appendages were so solid that he could not com-

plete their extirpation. This percentage of incomplete operations occurred in cases in the hands of a gynecological missionary. It is fair to suppose that the nine fistulae occurred in the unfinished cases.

To demonstrate how simple this work was, in his series of four hundred and three cases, he gives eighty-two as chronic parenchymatous salpingo-öophoritis, *without adjacent or uterine complications*, with three deaths; a high mortality in simple cases for a method for which so much is claimed by its advocates.

Choice of cases for the vaginal route is very simple; it is the operation of choice where we find malignancy of the uterus, cervix or fundus; the extirpation is easy, simple and rapid.

The discovery that the vaginal is an easy and rapid operation in selected cases, has influenced many to adopt and practice it. Very many operators seek for an easy road by which to deal with pelvic troubles. Without training, without passing through a long and laborious experience, they expect to learn to do difficult operations by a mere cursory reading of the literature of the subject and the witnessing of a few operations. They observe the ease and rapidity with which the experienced operator deals with deep-hidden and complex conditions, and suddenly take up the mistaken belief that they can do the same thing with equally fortunate results.

Few things have worked more gynecological mischief, entailed more misery upon women, than the ambition of a number of operators to be original, to introduce some novelty in the way of a surgical procedure. "My procedure," "My method," "My modification," are the very common expressions found in our surgical literature.

It is claimed for vaginal procedures that they are something new. The old clinicians tell us very fully of their vaginal work; the old literature upon the subject is abundant; the vaginal methods of our friends do not lack antiquity. There is the possibility—in fact, the certainty—that some of the old men did better work than many of the "new men" of the period, because they were less meddling, more definite in diagnosis, and possessed more varied knowledge and experience.

CANCER, VIEWED AND TREATED FROM THE STANDPOINT OF THE GENERAL PRACTITIONER, WITH REPORTS OF CASES.*

By BITTLE C. KEISTER, A. M., M. D., South Boston, Va.

The etiology of cancer is as yet very obscure, hence I shall not attempt any elaborate elucidation of a subject that is now agitating the minds of the scientific world.

Speculative authors tell us that it may be a parasitic disease, and, hence, may partake largely of the etiology of tuberculosis.

Various forms of bacteria have been observed from time to time in carcinoma by careful investigators. It is evident that these organisms form in cancer, and it is probable that they produce inflammations and necroses in the tumor, and in some cases, possibly, they have some connection with the cachexia.

Scheuerlen reported in 1887 a cancer bacillus which had been obtained by culture. The bacilli were short, and were capable of developing spores. These organisms, when inoculated into the mammary gland of dogs, produced tumors containing epithelial cells.

Prof. Sanfelice, of the University of Cagliari, in Sardinia, and Prof. Roncali, of the University Surgical Clinic in Rome, in 1895 published some very important data bearing on the etiology of cancer. Their remarkable experimental results with the blastomycetæ, as the active agents in the causation of cancer, has had much to do in producing a revolution of ideas on the pathology of this fell disease. By inoculation with these cultures, they have produced tumors in animals, which bear the strongest possible resemblance to those neoplasms from which the cultures were originally made. Without going so far as to say that this can be done in every instance, or that all cancers are necessarily of parasitic origin, one is justified by these results in at least maintaining that some cancers are positively of parasitic origin.

The presence of intra cellular organisms of quite a different character from bacteria has created much speculation during the last few years. Since the anatomical nature of cancer is better understood, it is known that peculiar cell-like bodies are a characteristic feature of the disease. These bodies were supposed to be cells undergoing degenerative changes. Schutz thinks that most of the questionable intra-

cellular structures found in carcinomata should be regarded as due to leucocytes, which have become imbedded in the cell. Klebs, after careful study and experiment, decides that there are no positive grounds for regarding these cells as parasites. He sees, in the presence of these cells, within the epithelial cells, evidence apparently of the old French theory of the *action de presence*—the leucocytes exerting a fructifying influence upon the cancer-cells and causing them to multiply. Many still hold to the old idea that they are degenerated epithelial cells.

All attempts to cultivate these cells from cancer growth appear to have failed, and the number of cases in which cancer has been inoculated successfully into animals is exceedingly limited. Councilman does not consider these structures parasitic, having seen them in many other morbid processes as well as in cancer. He does not think the parasitic origin has yet been proven, and, on theoretical grounds, thinks it is hardly likely to be. Park, however, sees in these investigations sufficient to encourage the hope that surgeons are on the eve of great discoveries, which will settle the question of the origin of cancer.

Cancer is said to be less common in tropical than in temperate climates. Haviland proved the disease to be most prevalent in damp and in low-lying districts in England. It is said to be less frequently seen in Turkey, in Egypt, and in the West Indies. Negroes are generally supposed in America to be much less afflicted with cancer than the white race. In England, statistics show that there are about 30,000 patients suffering at all times from cancer.

According to Park, the mortality of cancer is larger in and about western New York and the adjoining region than in any other part of the United States, save a limited area in California. Shattock has recently called attention to the fact that cancer-like tubercle may repeatedly show itself in certain houses. This author reported a series of four cases of cancer occurring within fourteen years, in persons unrelated by blood who were living in a single house.

Powers reports the history of three housekeepers who slept in succession for several years in the same house and the same bedroom. The first lived in the room for thirteen years and died of cancer of the stomach; the second, after a residence of twenty years, died of cancer of the liver; the third died at the end of eight years of cancer of the breast and uterus. They were all in good health previous to the time of their installment in the house.

* Presented to Medical Society of Virginia during its Twenty-ninth Annual Session, held at Virginia Beach, Va., August 30, 31, and September 1, 1898.

I am of the opinion that cancer, like tuberculosis, where there is a family predisposition to the disease, requires only very slight cause to light up the disease. A slight blow on the breast may produce a nidus from which cancer may develop. This is equally true of other localities of the body, as the lip, the tongue, the larynx, and the mucous membrane of the nose, which, by being constantly irritated from external causes, such as chewing and smoking tobacco, the disease may show itself sooner or later.

Out of three hundred and three (303) patients who were suffering from carcinoma of the lip, tongue, nose and pharynx (reported by Williams, Whitehead and Pennell), 60 per cent. used tobacco, and the majority smoked a pipe; and 19 per cent. had had syphilis. Other local causes were direct injury in eleven cases, ulcers from bad teeth in thirty-seven, ichthyosis in fourteen, localized syphilis in fourteen, and glossitis in three—a total of seventy-nine (79) cases out of one hundred and ninety-four (194), or 40 per cent. of the cases (noted by Curtis) as due to local causes.

It would therefore appear that local irritation played a very important part in the etiology of the disease.

The most usual situations of carcinoma of the mouth are in the cheeks (where it often appears to be directly due to ulceration set up by rough teeth) and in the floor of the mouth. In both of these localities, the disease is usually fatal, and is apt to return after removal.

Carcinoma of the tongue is one of the most intractable forms of the disease, probably because of the constant movement of the organ, its liability to injury, and the great tendency of the mouth to sepsis. The general health is very soon affected, and the lymphatic channels are usually invaded early; in fact, Sachs cites instances in which they were involved as early as five weeks after the disease was noticed, although in some chronic cases the glands may escape for a long time. In fifty-two (52) cases, they were the only glands attacked, while five times the infection skipped them and appeared in the cervical, submental, or retro-maxillary glands. This goes to prove the uncertain course that the disease may take; hence, we can very often be mistaken in locating the disease, and are tempted to remove important glands simply because it is customary to do so.

During the past five years I have tried to keep a record of my cancer cases, some of which I beg leave to report, as follows:

CASE I.—A young lady, 17 years old, whose grandfather died of carcinoma of the uterus

at the age of 48; one aunt and two uncles are victims of tuberculosis. This patient received a severe blow on her right cheek two years previous, from which she suffered intense pain for several months afterwards. Eighteen months after this, she complained of a swelling of the parotid gland, which continued to grow worse until an abscess formed and was lanced by her family physician. The discharge continued several months, when she was brought to me for consultation. On examination, I discovered several small sinuses in the neighborhood of the right parotid gland and cheek bone, all of which were discharging a watery fluid, which was very offensive. The sub-maxillary gland on the right side was somewhat enlarged. The patient appeared to be in good health, except the sallow expression about the face.

I advised an immediate operation with the knife, but the father of the patient objected to the knife, and asked whether a milder form of treatment could not be substituted. I then suggested a thorough cauterization with the electro-cautery, to which both the patient and father readily assented. After a careful preparation of the parts, I decided to try caustic potash as a preliminary step, and to follow this with electro-cautery, which I did very carefully and thoroughly.

Previous to operating, I gave the patient a hypodermic injection of one third of a grain of sulph. morphia, and a sixty-fourth of a grain of sulph. atropia. I also made a local application of equal parts of shaven ice and chloride sodium. The patient stood the operation well, and was conversing during the time of operating, and was able to return to her home, seven miles in the country, two hours later. I saw the patient 10 days after this, and was delighted to find the wound healing very kindly by granulation. The only dressing that I prescribed was a 20 per cent. solution chloral hydrate in distilled water, directing the parts to be kept clean and moist with this lotion. The wound healed entirely in twenty days. The swelling in the sub-maxillary gland also subsided, and the patient has remained well up to the present writing, having reached the three-year limit.

CASE II.—A man, thirty-eight (38) years old, married, and the father of seven living children; some tuberculosis in his father's family; his grandfather died of cancer of the face. The rest of his family history was uncertain. He stated that he had never suffered from any form of venereal disease; this statement, however, I doubted very much. He complained

of soreness and pain about his genital organs, and stated that he had been operated upon about six months previously for constriction of the foreskin.

Examination of the penis revealed considerable swelling of the entire organ, with sloughing and offensive discharge, covering the glans-penis. The end of the penis was very large, measuring nine inches in circumference, and presented the appearance of a cauliflower. The meatus urinarius was almost entirely occluded, the urine dribbling continuously, causing the patient additional pain and worry. The discharge and sloughing of the glans-penis was so offensive that it was necessary to keep antiseptic dressings applied constantly.

On the 24th of April, 1897, with the assistance of Dr. T. W. Williamson, of Houston, in whose neighborhood the patient resided, I amputated the penis just one inch from the junction of the pubes.

In performing the operation, I did not follow the usual method of making a complete circular incision, but after putting the skin on the stretch, I made a sloping incision from above downwards and outwards through the corpora-cavernosa, and when I reached the corpus-spongiosum, I allowed about half an inch space to intervene before completing the incision, thus allowing for the contraction of the urethra, as well as giving better shape to the much prized but mutilated organ. After tying the arteries, I made two stitches through the urethra on each side, attaching it to the corpus-spongiosum to prevent further contraction. I then made a few superficial stitches through the skin and corpora-cavernosa. After inserting a small glass tube into the urethra, I washed the parts with a solution of peroxide of hydrogen (full strength) and directed a continuous moist application, consisting of the following well known medicines: chloride of mercury, four grains; pure glycerine, four ounces; peroxide hydrogen, q. s. to make one pint of the lotion. This was applied continuously night and day by means of absorbent cotton for the space of eight days. I removed the stitches on the eighth day and found the wound healing very kindly. The patient having failed to keep the glass tube in the urethra, necessitated my having to enlarge the opening, which I did on short notice with a pair of sharp-pointed scissors, preceded by a local application of a 10 per cent. solution of cocaine.

Immediately after cutting the urethra, I made an application of a mild solution of perchloride of iron to the fresh edges of the incision, which kept them from healing, thus giving

the patient a fairly good meatus urinarius.

This patient made a good recovery, and has remained entirely free from all recurrent symptoms of the disease, remarking when I saw him last, that his greatest regret was, he could not, as in former days, urinate against a perpendicular object.

CASE III.—A lady, fifty-seven (57) years old, robust and apparently healthy; family history uncertain, mother died of pulmonary tuberculosis, one sister has tuberculosis and possibly carcinoma of the uterus. This patient complained of a lump in left breast with considerable tenderness in the axillary space. On examination, a small ulcer on the outside of the nipple and a large mass in the upper portion of the breast was readily discovered, also one or two excavations containing fluid or pus were found slightly protruding under the skin near the base of the nipple. There was no swelling in the axillary space nor of the cervical glands. Some tenderness extended above the breast in the direction of the axillary space.

With the efficient assistance of Dr. H. C. Beckett, of Scottsburg, who was the family physician of the patient, I removed the entire breast with the knife, making two carefully-directed incisions from above downwards, afterwards carefully dissecting every trace of suspicious tissue. I then douched the entire wound with a solution of chloride of zinc (1-40) in warm sterilized water, after which I closed the wound with a continuous suture of aseptic silk, having previously adjusted a suitable drainage tube. After making an application of a 5 per cent. solution of aristol and collodion on a small piece of iodoform gauze along the line of incision as an antiseptic cement, I proceeded to apply the usual dressing of iodoform gauze and carbolized absorbent cotton. This was followed by a carefully-applied bandage around the entire body. On the fourth day after the operation, I removed the drainage tube, and on the eighth day the dressing and stitches, and was not surprised to find that union had taken place by first intention and everything in nice shape. This patient was operated upon August 14th, 1893; and I am happy to say she is a well woman to-day, having passed over the three-year limit safe and free from recurrent symptoms.

CASE IV.—Mrs. O., a lady, sixty-two (62) years old and in very feeble health. She had carcinoma of left breast which was caused, as she stated, by a severe blow from one of her grand-children, five years previously. The family history of this patient is very unfavorable,

her grandmother on her mother's side having died of cancer of the nose and face in her sixtieth year. One uncle and two aunts died of tuberculosis. One brother is now suffering from cancer of the head and neck. This lady was refused an operation by an eminent surgeon in Danville, Va., on account of her infirmity and general bad health.

Three months after this, she applied to me for treatment. I advised an operation, preceded, however, by a preliminary course of constitutional treatment. Five weeks after this, assisted by Drs. Williamson and Faulkner, I amputated the entire breast with a good portion of the underlying tissue and muscle, which looked a little suspicious. I also cauterized the suspicious parts with a strong solution of chloride of zinc. Having adjusted a suitable drainage tube, I closed the wound with a continuous suture of aseptic silk, and applied the usual dressing of antiseptic gauze and absorbent cotton. This patient made an uninterrupted recovery, notwithstanding her age and general infirmity. She was operated upon May 20th, 1895, and, up to this writing, she has enjoyed better health since the operation than for the previous five years.

Before reporting my next case, I desire to call attention to the important fact, that in operating for cancer of the breast, I invariably leave the axillary space uninvaded, notwithstanding the fact that the practice and teaching of some of our best modern surgeons on this subject are directly contrary to these views. If it be true that cancer partakes largely of the etiology of tuberculosis, as held by many able writers of the modern schools, it must necessarily be true that the organisms of cancer can be conveyed from one part of the human structure to any other part with as much ease and facility as that of tuberculosis. Hence we conclude that it would be worse than folly to enter the axillary space and deprive the body of important glands, at the same time knowing that the cancerous poison may be doing greater damage to other organs and infecting other parts of the human structure.

Even admitting the common belief that cancer is conveyed only through the lymphatics, does it not seem unreasonable to remove the axillary glands in carcinoma of the breast, and at the same time knowing that the other neighboring glands within the thorax and the great number of lymphatics in the neck and face may be infected with the same poison? I therefore conclude, if there is any virtue in removing one set of glands, there should also be the same indication for removing any or all

of the glands of the body; for inasmuch as the lymphatics extend through the whole body and can convey a poison to any part thereof with about as much facility as to any special part or locality, I cannot think it is clear reasoning or good surgery to remove the axillary glands in the operation for carcinoma of the breast, and at the same time leave other infected glands in the body.

I therefore place myself on record as opposed to the common practice of removing the axillary glands in ordinary cases of carcinoma of the breast, unless we are fully convinced that the cancer is strictly limited to these special glands and the breast. It is just as much the duty of the surgeon to remove the inguinal or pelvic glands for carcinoma of the uterus, vulva, penis or scrotum. The same rule applies to the removal of the submaxillary and sublingual glands in epithelioma of the lip, nose, tongue and larynx.

CASE V.—This lady was fifty-seven (57) years old, the wife of a distinguished Lutheran minister and president of a noted college. Her family history was favorable so far as I could ascertain. She was the mother of four children, none of whom have ever shown any indications of the disease. This lady consulted me about the return of her menses and her profuse leucorrhœa, as she termed them, not for one moment thinking that she was then suffering from any form of malignant disease. She was apparently in robust health, and had never suffered from any acute pain. In making a speculum examination, I readily discovered from the offensive discharge and its peculiar character, as well as from the external crater appearance of the cervix of the uterus, that this was a carcinoma of long standing. She informed me that she had suffered from repeated hæmorrhages at varied intervals for over eight months previous to consulting me. She also stated that she had suffered from a profuse watery, yellowish discharge from her womb for about five months. On examination, I found that this discharge contained lumps of putrid flesh varying in size from a split pea to a chestnut. These masses, on microscopic examination, proved to be cancer, at least the culture products corresponded to those usually given and described in our text books.

After two weeks' palliative treatment, consisting of curetting, and packing the uterus with antiseptic gauze, and the use of galvanic electricity, and not seeing any special improvement, I decided to give the patient the doubtful advantage of a more radical form of treatment. Accordingly, I wrote her husband,

who was in an adjoining State, to come at once with a view to accompany his wife to a first-class hospital. After a consultation with the husband and patient, we decided to go to Richmond to consult Dr. Hunter McGuire as to the propriety of subjecting the patient to a radical operation.

Dr. McGuire, who is always honest and frank toward his fellow-physicians, did not hesitate to express his opinion, after a thorough and careful examination, that the case was one of the very gravest, yet possibly an operable one. The husband, who, of course, was very anxious about his wife, after mature consideration, decided with me that we would go on to Baltimore and consult an eminent abdominal surgeon of that city. After a cursory examination, this eminent surgeon decided that the case was a favorable one for an operation, and advised complete extirpation of the uterus by the vaginal route. This gentleman's eminence as an abdominal surgeon and the superior advantages of the world-renowned hospital with which he was connected, induced me to submit the whole matter to the patient and her husband, thus throwing the entire responsibility on their decision. They were not long in making up their minds to have the operation performed.

I shall forbear giving a description of the unfortunate operation that this eminent surgeon, with his staff of able assistants, performed, but suffice it to say, the patient died with a mutilated uterus intact and a severed ureter to tell the tale better than pen can describe it. The carcinoma which occupied the fundus and a large portion of the cervix was left unmolested by the skilled (?) operator, notwithstanding the fact that this was, in the operator's opinion, a *most operable* case. While I would not detract from this eminent surgeon's reputation as a gynecologist, yet I must frankly say he proved himself unpardonably deficient in surgical diagnosis, as well as in prognosis, in this one instance.

My past five years' experience in the treatment of this fell disease convinces me thoroughly that radical operations for carcinoma of the uterus after twelve months standing, is a travesty on modern surgery, and should be condemned by all honest surgeons and physicians who have at heart the real interest of our profession. I might go a step further without transcending the limits of good logic, from a surgical point of view, and say, that *capital* operation for the treatment of any malignant disease that has passed the primary stage, should be abandoned and condemned.

Methinks I hear you ask, What shall we do with the inoperable cases, or those that have passed beyond the primary stage of the disease? In reply, I would say, first get your patient's mind composed and free from the horrible forebodings that usually accompany this dread disease, by building up the nervous system with nerve tonics, such as strychnia, phosphoric acid and electricity. This should be followed at the proper time with reconstructive agents, such as iron, cod-liver oil and hypophosphites, etc.; bromide of arsenic, iodide of calcium internally, and carbide of calcium externally, have been extensively used in the treatment of this disease. Local treatment should be combined with the constitutional, and consists of hypodermic injections in and about the diseased structures of diluted alcohol and bichloride of mercury in the strength of one to five hundred (500) or one to one thousand (1,000), according to the type and malignancy of the disease. I have treated successfully a large number of cases in the primary stage with applications of caustic potash and Marsdon's paste. In properly selected cases, this form of treatment, in my judgment, is superior to a bloody cutting operation with the knife, and I find that a patient will readily assent to this form of treatment, while he would otherwise reject the knife, and thus prolong the risk. Local anæsthesia is a very important adjunct in the treatment, and should never be omitted when operating, either with the cautery or knife. I don't think a physician is ever justifiable, *under any conditions*, in telling a patient that he has a cancer. I have seen patients get apparently well by disabusing their minds of the disease without any treatment, except a placebo to divert the mind.

The day is not far distant when conservative surgery, aided by electricity, X-rays, and the many other modern agencies in use, will sound the death-knell of bold radical surgery.

In conclusion, I would sound a note of warning to my fellow-practitioners against sending their malignant cases off to the bold, reckless, salaried hospital surgeon whose reputation is gauged by the number of radical operations performed and the number of females unsexed, instead of the actual number of cures made.

Far better for the patient, the family physician, and the medical profession at large to keep the suffering patient at home, even though his days on earth be numbered, than have him sacrificed in a world-renowned hospital at the hands of the reckless surgeon whose anxiety for notoriety is greater than his sense of right.

It is a sad picture, as well as a calamity to our

profession, that so many of our fellow-mortals are to-day being sacrificed on the operating table, whose lives might be prolonged months and possibly years, under a rational and more conservative form of treatment.

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TEETHING AS A CAUSATIVE FACTOR IN DISEASE.*

By FRANK H. HANCOCK, M. D., Port Norfolk, Va.

With peculiar and distinctive unanimity, the medical profession has fixed a relation between teething and certain coincident occurrences, said to be contingent.

To a process thought to be physiological are ascribed phenomena, whose presence is indicative of the most serious pathological changes.

Physiology and pathology have no border land here, and, with an affinity that is chemical, they emerge into an indiscriminate mass.

Instituted as a perfective measure of digestion, teething upsets it; as a necessary accessory to the alimentary tract, it comes to be the most grievous ill with which that canal has to do.

As a natural function, teething is unique. Hardly within the range of probability has nature, in another instance, wielded so effective a weapon against physical development; certainly not in the history of evolution is there to be found a parallel.

Teething is the growth of a tissue essentially dull and local, with but one function when it is completed—that of chewing food, which then is accomplished only through the assistance of a very pliable organ—the tongue. Yet to this commonplace mechanism is ascribed the most intricate reflexes; the most exalted and delicate impressions it conveys, performances only of a nervous system in its most perfect maturity.

The teeth begin to form in the first few weeks of gestation. About the seventh week, the epithelium lining the oral cavity becomes depressed along the margin of the jaw, forming the primitive dental groove.

The adjacent borders correspond to the dental ridges. Superficially, therefore, this groove

consists of epithelial cells. Beneath this is a gelatinous connective tissue supposed to represent the corium, and the connective tissue of the future mucous membrane, still deeper, is the ossifying substance of the jaw.

From these elements the teeth are formed—the enamel from the epithelium, the crusta petrosa and dentine from the deeper structures.

The epithelial tissue begins to pile up in masses in the dental groove, the corium develops transversely to the long axis of the jaw, producing a series of pits.

From the epithelium within these depressions—enamel germs—the enamel of the teeth is formed.

Contemporaneous with these processes in the epithelial layer, changes are taking place in the corium, which result in the production of dentine and cement.

An early process here is the formation of papillæ from the soft connective tissue, which has been described, immediately beneath the enamel germs.

The papillæ correspond to the number of the teeth. They grow upward, are received and crowned by the enamel organ.

Each then begins to assume the shape of the tooth developed from it.

From these same papillæ develop odontoblasts, which bear the relation to teeth osteoblasts do to the formation of bone. They form elongated protrusions, which, becoming calcified, constitute the dentinal tubules.

This completes the description, and the elaborate process of tooth manufacture occurs in utero.

During the remainder of this period, and for six months after delivery, there is a constant addition of earthy matter to the tooth for the purpose of shaping and hardening it.

The calcification matured, the tooth is now ready for its duties, and begins its passage through the gums.

Though it is but the simple passing of a hardened mass through the soft fibrous connective tissue of the gums, normally the event is productive, so it is said, of the most morbid results; and so ponderous and sure is the evidence that that act of the tooth passing through the gum is originative of disease, that the medical profession has, for two thousand years, regarded it as the most fateful epoch in the history of human progeny.

Before differing squarely with the theory, that in perfecting the first dilatation of the alimentary canal, nature produces disease, frequently fatal, of the other portion, let us review her operation in ancestral kingdoms; notice

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her faultless work in adapting the digestive track to the needs of particular species.

The *amœba proteus*, the most prehuman of our ancestry, and the simplest representative of digestive processes, is of interest because of the simple and perfect manner in which it meets and appropriates food.

The part coming in contact with the edible sacculates and receives it; pseudo-pods flow out from each side and surround it. After absorbing the nutritious part, the pseudo-pods flow apart and gently glide back; the *amœba* changes position and leaves the insoluble remainder. This impromptu stomach—for it consists of a simple dipping in of the surface—may be improvised upon any part of the *amœba* body. By this dipping in, or invagination, the stomach, through all the species, to the highest group of mammalia, is formed.

In the polyzoa we find a permanent stomach, which consists of a simple depression of the general surface.

The mouth is distinctive only in a row of cilia arranged about it.

The higher members of this group present the addition to a mouth, an outlet for excrementitious products. These are arranged side by side, forming a M. In the worm the M becomes straightened, and we have the primitive intestinal canal.

Proceeding, now, there are a series of coils, convolutions and dilatations, until the canal reaches perfection in the herbivora. Close scrutiny will develop the fact, that, though in the higher species the canal is elaborate, this progression from the simple tube of the worm to the intestine of the herbivora, is, in every instance, a perfect expression of the digestive needs of the forms to which they belong. They are, as said by Hutchinson, of Buffalo, a response of internal conditions to external condition, the external conditions being for the most part the nature of the food supply. And however great the range of variation in the comparative specifications, they will be found, as observed by the same writer, "harmonizing in every case with the primitive key-note of the nature of the food, and the conditions upon which it must be digested. The typical carnivorous canal, for instance, with its moderate-sized, pear-shaped distension for a stomach, its simple coils of small intestines, its small cæcum, and short large intestine, measuring in all only from three to six times the length of the body, is obviously the fish food tube, modified for the purpose of attacking flesh.

At the other extreme, the enormously ballooned, and many cavities gastric pouch, the

long and complicated small intestine, the huge cæcum and colon of the herbivora, reaching a length of from twelve to twenty times the length of the body of the animal, is a striking illustration of immensely increased elaborateness in order to contend with a food of much greater bulk, and correspondingly difficult digestion."

Evidence of this incomparable adaptation may be seen in some of the following examples.

In the lower species of fishes the canal is a tube, not much larger than the body, with an anterior dilatation large enough to permit of swallowing the prey whole.

Coils and dilatations are unnecessary here, because this species is almost purely carnivorous, and the easily soluble food upon which it subsists requires but little exposure for absorption.

It is said that the canal of the fish is constructed on the principle of being just adequate to engulf the food, retain it until absorption takes place, and discharge it as promptly as possible.

The food of reptiles is somewhat less soluble. The canal behind the stomach is lengthened and coiled for the obvious purpose of melting a less soluble food with more absorptive surface.

In birds the canal becomes complex, for apparent reasons, and we have there the well known organ for soaking and macerating the foods—the crop. Occupying the position of the pyloric extremity of the mammalian stomach is the gizzard, where the food is crushed.

It need scarcely be told those who have listened to this review of comparative anatomy, since we know the hardened texture of the food—cereals—that this species feed upon, that beyond this gizzard the intestine is very much elaborated; and, in order to accommodate itself, the body cavity is massed in coils.

In mammalia there is a duplicate of many of the processes we have reviewed, changed somewhat, but capable of fulfilling their functions as physical needs require.

The stomach of the infant at birth is little more than a "spindle-shaped dilatation," in fact, is so thoroughly lacking in the essentials required of it later, that a morphologist has seriously pronounced it in the fish stage.

So striking does this connection seem between the infantile stomach and the carnivorous fish that these students of comparative anatomy have taken the suggestion of the relationship of the two, and declared that as the

fish, under the tutelage of instinct, receives only soluble flesh food, the food of the human infant stomach should be carnivorous and the flesh in a highly soluble form.

A recognition of this fact and its instillation into practice, has, they claim, been a great factor in the lessening of infant mortality.

Gradually the stomach functions are assumed, but not until long after the teething period has it reached a position of importance, and the response it is said to play to tooth sprouting is a myth.

The imperfect development of the human stomach at birth may be explained by the simple reason that we have so strenuously tried to impress: that there is always a distinct relation between a digestive organ and its requirements; and the main point of my paper is made when I say that equally exact is every other feature relating to digestion.

The main lesson that comparative anatomy teaches is food supply, and if its laws were regarded, the intestinal canal would not be a frequent site of disease, and the child's first year would not so often be its last.

The profession generally has never realized the powerful lesson taught us by comparative study.

Reasoning from what we have read, and knowing what we do of contaminated food, of bacteria, of fermentation, of putrefaction, it is not astonishing that the continued administration of poisoned food to a system where there are, as yet, no sterilizing ferments, should be productive of such telling results; as acute, and subacute with infection, dysentery, and diarrhoeas of various kinds.

The fact that this diarrhoeic tendency lessens during the second and third year, is in no way related to dentition, but due to the protective condition of the canal which the development of the various secretions gives it.

Free hydrochloric acid is known to be destructive to fungi up to a certain point; this, of course, the infant stomach has not.

Since fermentation is in no way arrested, yeast fungi are found in large quantities in infant diarrhoea.

And if physicians who attach importance to the theory of teething, were to examine the food served to their diarrhoeic patients, they would in numerous instances find it contaminated.

Mr. Nathan Straus, in examining the milk of nearly all the large cities in the United States, found that average city milk which had been tested according to the customary tests of color, taste, smell, and the galactometer,

contained 2,350,000 bacteria to the c. c., or more than twice the amount of bacterial contents of the same quantity of city sewage.

The rapid intoxication that might follow repeated doses of this infected food can be well appreciated.

Again, examination of the stools will nearly always find them teeming with bacteria and the products of fermentation.

It is known, of course, that as many teeth are erupted in winter as in summer; yet the diarrhoeas occur, practically all, in the summer, which is suggestive.

In addition, advocates of this theory admit when questioned, that the majority of teething diarrhoeas occur in bottle-fed children, which is also significant.

Eruption of teeth through abnormally thick gums may eventually induce diarrhoea, by auto-intoxication; that is, the nerve irritation may become so great as to overcharge the unstable centres, resulting in an arrest of tissue metabolism, and these intermediate products of oxidation accumulating in the system bring about self-intoxication.

It may be, in neurotic children the intestinal glands are excited through influences reaching them from highly irritated gums, and a diarrhoea thus set up. It was claimed that the mucous stool was this way produced, but we now know that it is frequently caused by errors of digestion, and so by microscopical examination, it might be possible to eliminate its nervous connection in every case.

DELIVERY AT TERM OF AN APPARENTLY FOUR-MONTHS' PLACENTA, AND AMNIOTIC SAC CONTAINING SLIGHT FŒTAL DETRITUS.

By CLIFTON MAYFIELD, M. D., of Washington, D. C.

Mrs. ———, 34 years of age, married nine years, and pregnant about six years ago, which pregnancy terminated by miscarriage at about the fourth month. Her health has been good, though she is of a rather nervous temperament. In appearance, she is a hearty, robust woman.

Saw her March 1st, when I obtained the following history.

On the 20th of June last she had menstruated, having a free flow, continuing for three days. She suffered no pain at this time, nor did she usually at such periods, which were always regular. In August, she had severe cramps and vomiting for several days before

the flow began, the pain continuing through the whole period. She observed enlargement of the breasts, that her clothes were tighter, and increase in flesh about the hips, and believed that she was more than two months pregnant. I may state that she was not carried away by her desires in the matter.

In September, she had a repetition of the pain, etc., accompanying the flow, and noted some increase in the abdomen.

During about a week in August and again in September, she had vomiting whenever food was taken, but it was without nausea. In October, the flow was very slight. In November, there was no flow at all. She had increased in size to such an extent as to give rise to comments on the part of friends, and she had to dispense with corsets on account of distress from their use. From November, she ceased to increase and then began to grow smaller, remarking to her husband that she believed the child was dead.

December 12th, she had pains and a sudden gush of blood. This was repeated on the 14th, and again on the 15th the flow was almost alarming. Between these sudden gushes there was no flow at all.

From the latter date until one week ago, the flow was absent; she then noticed a bloody mucous discharge, which persisted. All nausea ceased last October, since which she has felt perfectly well.

Digital examination showed a uterus enlarged, but being unable to accurately determine, I only stated that it was not over four months advanced in size.

The cervix was high up, long, moderately hard, and there was a slight blood-stained mucous discharge.

Pains began about 3 A. M. March 1st, and continued to the time of my visit at 8:30 A. M. From this time until 1 A. M. March 3d, they were infrequent, but at times very severe. At 3 A. M. on the latter day, on awakening from sleep, the fetal mass dropped from the vagina.

The amniotic sac opened by Dr. D. S. Lamb, contained only fluid, slightly bloody, showing evidences of decomposition and a small amount of detritus, like minute particles of bone.

Interest centres in the question as to what was the period of utero gestation; or, in other words, how long after the death of the fetus before expulsion was effected?

Proceedings of Societies, etc.

MEDICAL EXAMINING BOARD OF VIRGINIA.

The regular fall meeting of the Medical Examining Board of Virginia met at Virginia Beach, August 29th, 1898, at 9 P. M.

In the absence of both the President and Vice-President, Dr. H. M. Nash, of Norfolk, was called to the chair.

On roll-call by the Secretary, R. S. Martin, the following members were present: Drs. Brady, Randolph, Slaughter, Budd, Warriner, Nash, Rodgers, R. S. Martin, and E. C. Williams (Homœopath).

Dr. Brady introduced the following resolution, which was adopted:

Resolved, That applicants suspected of copying have their papers examined immediately after being so suspected, and if they are found to be copies, they shall be dismissed from that examination, and the reason therefor stated to to the class.

Resolved further, That this resolution be read to the class before each examination.

Questions on Surgery, Anatomy, Physiology, Pathology, Histology and Bacteriology, Materia Medica and Therapeutics and Practice of Medicine were read and adopted. Homœopathic questions on Materia Medica and Therapeutics same as adopted by the Board last spring.

Board adjourned.

Board met for further consideration of business September 1st, at 12 M. Present: Dr. H. M. Nash, Chairman; R. S. Martin, Secretary; Drs. Foster, Brady, Slaughter, Rodgers, Warriner, and Williams (Homœopath).

Dr. M. R. Allen (Homœopath) was present in the hall during the examinations on his sections.

Questions on Hygiene and Medical Jurisprudence, Chemistry, Obstetrics and Gynecology adopted.

Dr. Rodgers introduced the following resolution, which was adopted under suspension of the By-Laws:

Resolved, That the by-law passed by the Board at the spring meeting in 1898 in regard to time for the future meetings of this Board be repealed.

Dr. Brady then introduced the following resolution, which was adopted:

Resolved, That this Board meet for the examination of applicants the first Monday in

June, 1899, in Richmond, Va., and that each meeting decide the time and place for the next meeting.

Dr. Slaughter moved that the resolution introduced by Dr. R. S. Martin last fall at Hot Springs in regard to examiners sending the Secretary ten days before each examination their questions with synopsis of their answer, be strictly complied with in the future. Adopted.

In regard to *temporary permits*, it is the understanding of the Board that the resolution of Dr. Robinson adopted June 21st, 1898, applies only to applicants who have not appeared before the Examining Board, and that it advises in the future that no temporary permit be granted to any applicant whose grade falls below 70 per cent.

Dr. E. C. Williams introduced the following resolution, which was adopted:

Resolved, That when possible, a *per diem* of two dollars and the actual traveling expenses of the members of the Board in attendance at the meeting of the Board be first paid, and that all funds remaining in the Treasurer's hands after this has been done, above the actual expenses of the Board, be equally divided among the members of the Board present.

Board adjourned.

H. M. NASH, *Chairman*.

R. S. MARTIN, *Secretary*.

I. SECTION ON MATERIA MEDICA.

Dr. L. S. Foster, Examiner, Mathews, Va.

Dr. E. C. Williams, Richmond, Homœopathic Examiner.

Ques. 1. (a) What is oleum morrhuæ, and how obtained?

(b) Name its principal chemical constituents and give physiological effects.

(c) What potassium salts are used as cathartics?

Ques. 2. (a) What are the physiological actions of the phosphates and hypophosphites?

(b) Give source and physiological action of colchicum.

(c) Name its preparations and dose of each.

Ques. 3. (a) How do the aromatic differ from the simple bitters?

(b) Name the chief chemical constituents of the aromatic bitters.

(c) What medicines should not be prescribed with gentian?

Ques. 4. (a) Give dose of the following preparations:

Fld. ext. of aconite, belladonna, nuxvomica, sanguinaria, stramonium, and veratrum viride.

Tincture of iodine, belladonna, nuxvomica, physostigma, and squills.

(b) How may diuretics be classified?

(c) Name a medicine of each class.

(d) Name the official solid preparations.

Ques. 5. (a) Give a prescription containing a number of doses of different ingredients; how can a single dose of any one drug be ascertained?

(b) Name the official alkaloids of cinchona.

(c) Name the official preparations of conium with dose of each.

(d) Name the preparations of mercury used as simple purgatives with dose of each.

Answer only four of the questions.

[Homœopathic Questions—Dr. E. C. Williams, Examiner.

Ques. 1. (a) Give the preparations of mercury used in medicine.

(b) Give the general physiological action of mercury.

Ques. 2. (a) Upon what tissues or organs of the body do the following remedies especially act: (1), Petroleum; (2), Phos. acid; (3), Aurum; (4), Dulcamara; (5), Thuja?

(b) Give the characteristic symptoms of sepsia with reference to the mind, stomach, urinary organs, female organs.

Ques. 3. (a) Describe the symptoms of a case of acute poisoning with bell.

(b) Give the characteristic symptoms of bell. with reference to the head, throat, female organs, sleep.

Ques. 4. Give the mental symptoms of puls, acon., ign., coffea, bry.

Ques. 5. (a) Differentiate the hæmostatic uses of acon., hamam., ipecac, phos.

(b) Differentiate the ovarian symptoms of apis, coloc., Lach., bell.]

II. SECTION ON THERAPEUTICS.

Dr. J. E. Warriner, Examiner, Brook Hill, Va.

Dr. E. C. Williams, Richmond, Homœopathic Examiner.

Ques. 1. (a) Give five most important preparations of mercury for internal use and doses of each.

(b) Name the important incompatibles.

(c) Give chief therapy of mercury internally.

- (d) State, briefly, the important uses locally.
- Ques. 2. (a) Name four gastric or local emetics.
 (b) Name four direct or systemic emetics.
 (c) Name eight best local anti-emetics or gastric sedatives.
 (d) Name four best direct or systemic anti-emetics.
- Ques. 3. (a) Give three best diaphoretics and their doses.
 (b) Give official preparations of pilocarpus and its uses.
 (c) To what class of purgatives does aloes belong?
 (d) In what part of intestinal canal is its chief action?
- Ques. 4. (a) To what class of agents do the lead salts belong?
 (b) Give their important uses.
 (c) What salt is used internally, and why is acute poisoning by it rare?
 (d) In case of poisoning, what is its antidote?
- Ques. 5. (a) In what three ways do caustics act?
 (b) Give an example of each class.
 (c) For what three purposes are caustics employed?
 (d) What is the essential difference between astringents and caustics?
- Answer four blocks only.
- [Homœopathic Questions—Dr. Williams, Examiner.
- Ques. 1. (a) Give the leading indications for ars. in diarrhœa.
 (b) Give the leading indications for hepar. S. in croup.
 (c) Give the principle uses of rhus tox. in medicine.
 (d) Give the general measures and diet for the relief of hemorrhoids, with name and symptoms of the principal remedy for the same.
- Ques. 2. (a) Give the rules for diet in diabetes mellitus.
 (b) Give the leading indications for podo. in diarrhœa.
 (c) Give the leading indications for bry. in bronchitis.
 (d) Give the principal uses of stram. in medicine.
- Ques. 3. (a) Differentiate between bell. and merc. bin. in tonsillitis.
 (b) What two remedies are especially useful for any evil results of vaccination?
 (c) Give the leading indications for crot. tig. in diarrhœa.
- (d) Give the leading indications for apis. in erysipelas.
- Ques. 4. (a) Give the principal uses of kali bich. in medicine.
 (b) Differentiate between phos. and ant. tart. in pneumonia.
 (c) Mention four remedies of especial use in pustular eruptions.
 (d) Give the leading indications for cale. ostr. in diarrhœa.
- Ques. 5. (a) Give the leading indications for nux vom. in dysentery.
 (b) Give the principal uses of bapt. in medicine.
 (c) Give the treatment in case of ars. poisoning.
 (d) Differentiate between ip. and ver. alb. in cholera infantum.]

III. SECTION ON PRACTICE OF MEDICINE.

Dr. E. T. Brady, Abingdon, Va., Regular Examiner.

Dr. E. C. Williams, Richmond, Homœopathic Examiner.

- Ques. 1. Give differential diagnosis between apoplexy, epilepsy, alcoholic intoxication, uræmia, and cholera morbus.
- Ques. 2. What is ascites? State causes and how recognized.
- Ques. 3. Give symptoms and diagnosis of variola. With what is it most likely to be confounded?
- Ques. 4. What is lithæmia, and what its usual causes?
- Ques. 5. Give, briefly, treatment of the following: (a) Ulcerated stomatitis.
 (b) Spasmodic croup.
 (c) Round worms (*Ascarides lumbricoides*).
 (d) Seat worms (*Oxyuris vermicularis*).
 (e) Acute articular rheumatism.
- Ques. 6. Give general treatment of fevers.
- Ques. 7. Give pathological anatomy of peritonitis.

Note.—Answer 1st and 5th questions, and any four of the remaining five.

IV. SECTION ON SURGERY.

Dr. S. W. Budd, Petersburg, Examiner.

Dr. M. R. Allen, Homœop. Examiner.

- Ques. 1. Give (a) the chief varieties of spinal curvature (non-tubercular).
 (b) Causes.
 (c) Treatment.
 (d) Symptoms in detail of Pott's disease.
 (e) General treatment (not including abscess).

Ques. 2. Give cause and general course of syphilis, including (a) modes and sites of introduction into the system.

(b) Length of time intervening between inoculation and the appearance of lesion.

(c) Symptoms of each stage—1st, 2d, 3d.

Ques. 3. Give important conditions calling for amputation of the extremities.

Ques. 4. Give (a) causes of intestinal obstruction.

(b) Surgical resources in the treatment of intestinal obstruction.

(c) Describe a method of intestinal anastomosis.

Ques. 5. Give causes for the removal of the upper jaw (sup. maxilla); describe operation in detail.

Ques. 6. Mention the causes of retention of urine, and the means of relieving it.

Ques. 7. Describe hypospadias and epispadias, giving outline of operation for their cure.

Omit one of the last three questions.

V. SECTION ON HISTOLOGY, PATHOLOGY AND BACTERIOLOGY.

Dr. R. M. Slaughter, Theological Seminary, Va., Examiner.

Answer six questions.

Ques. 1. Describe the histological structure of the Malpighian corpuscles of the kidney.

Ques. 2. (a) Describe endothelium, and

(b) State where found.

(c) Of what kind of tissue is the framework of organs composed?

(d) Where are the glands of Brunner located?

(e) What is the histological derivation of the spermatozoa?

Ques. 3. (a) Describe the Gram method of staining bacteria in cover-glass preparations.

(b) Name some of the important bacteria that do not stain by this method.

Ques. 4. (a) Describe the micrococcus lanceolatus.

(b) What diseases does it produce?

(c) What is its importance from a surgical point of view?

Ques. 5. (a) Describe lardaceous or waxy degeneration.

(b) State what diseases most commonly give rise to it, and

(c) What organs are generally affected by it.

Ques. 6. Give the pathogenesis and

(b) Pathology of erysipelas.

(c) Name the two sources of danger to be combated in phlegmonous erysipelas.

Ques. 7. (a) Describe the macroscopical appearance of the kidney in acute parenchymatous or desquamative nephritis.

(b) Give the pathology of urine in this disease.

Ques. 8. (a) In primary acute broncho-pneumonia in children, what is the common age of occurrence?

(b) Is acute broncho pneumonia most often primary or secondary?

(c) When secondary, to what diseases chiefly?

(d) Tell what you know of the bacteriology of the primary and secondary forms.

VI. SECTION ON ANATOMY.

Dr. W. L. Robinson, Danville, Examiner.

Ques. 1. Name the ligaments of the uterus, and describe their anatomical texture and distribution.

Ques. 2. Trace the ureters from kidney to bladder, especially giving relations to uterus and uterine arteries.

Ques. 3. What is the sympathetic nerve? Describe the solar plexus.

Ques. 4. Name the bones of the trunk. Classify and give number.

Ques. 5. Name and describe the muscles of the abdomen.

Ques. 6. Describe the palmar arches and distribution of branches.

Ques. 7. Name and trace the principal veins of the neck.

Ques. 8. Describe the muscles of the eye.

VII. SECTION ON PHYSIOLOGY.

Answer all these questions.

Dr. Robert C. Randolph, Boyce, Va. Examiner.

Ques. 1. (a) What are carbohydrates?

(b) Name three that occur in human body.

(c) In what organ is the most important found, and how formed?

Ques. 2. (a) What is meant by *insalivation*?

(b) Name the glands that produce saliva.

(c) What ferment does saliva contain, and what is the action of this ferment on food?

Ques. 3. (a) Describe the gastric juice.

(b) Give chemistry of stomach digestion.

(c) Name three most important digestive ferments in the pancreatic juice, and describe the action of each on food.

- Ques. 4. (a) What are the functions of the skin?*
(b) What are the functions of the sweat glands?
(c) In what important particulars does cow's milk differ from human milk?
- Ques. 5. (a) Give physical character of normal urine.*
(b) What per cent. of solids does normal urine contain?
(c) How much urea and uric acid is excreted daily by an adult?
- Ques. 6 (a) What is the function of the 4th cranial nerve?*
(b) Give most important branches of the 10th cranial nerve, with functions of each branch.
(c) What is the special function of the chorda tympani?

VII. SECTION ON CHEMISTRY.

Dr. Samuel Lile, Lynchburg, Examiner.

- Ques. 1. What is chemistry?*
Ques. 2. What are alkaloids, and how are they obtained?
Ques. 3. What is CO₂? How obtained, and does it affect vegetables and animals?
Ques. 4. Give two separate and distinct tests for albumen, and explain fully the results?
Ques. 5. What is hydrogen monoxide? How can it be proven by electricity? and give result of experiment.
Ques. 6. Differentiate chemical combinations and mechanical mixtures?

IX. SECTION ON OBSTETRICS.

Dr. H. M. Nash, Norfolk, Va., Examiner.

Dr. M. R. Allen, Homeopathic Examiner.

- Ques. 1. Describe the fetal circulation, and note the changes in the circulation after birth?*
Ques. 2. How is the fecundated ovum nourished when it first reaches the uterus; and about what time is the placenta distinctly formed?
Ques. 3. Define abortion, giving the exciting and predisposing causes, both paternal and maternal, and also those causes pertaining to the fetus itself?
Ques. 4. Etiology and symptoms of extra uterine pregnancy?
Ques. 5. Treatment in labor? In shoulder presentation with prolapse of the anus?

Answer any four of the above five questions.

X. SECTION ON GYNECOLOGY.

Dr. C. W. Rodgers, Staunton, Va., Examiner.

- Ques. 1. Define rectocele, vesicocele, haematocele. Differentiate haematocele from other pelvic lesions?*
Ques. 2. Give symptoms and signs of pelvic inflammation and its possible terminations?
Ques. 3. Give the causes, symptoms and treatment of catarrhal cystitis?
Ques. 4. Early symptoms of cancer of the cervix, and differentiate it from hyperplasia of the cervix?
Ques. 5. Causes of sterility and the forms most likely to yield to treatment?

Answer four of the five questions.

XI. SECTION ON HYGIENE.

Dr. R. W. Martin, Lynchburg, Examiner.

- Ques. 1. What is surface-water? Is it suitable for drinking? If not, why?*
Ques. 2. What is meant by ground-air, and how does it affect the salubrity of a locality?
Ques. 3. At what time in the twenty-four hours is the poison peculiar to a malarial region most dangerous, and why?
Ques. 4. (a) Name the principal disease peculiar to school-life that may be prevented or greatly diminished by judicious sanitation.
(b) What is the earliest age at which a child should be sent to school? Why?

XII. SECTION ON TOXICOLOGY AND MEDICO-LEGAL JURISPRUDENCE.

Dr. R. S. Martin, Stuart, Examiner.

- Ques. 1. State in detail the symptoms that would excite suspicion of poisoning by arsenic, mercury, lead and sulphate morphia.*
Ques. 2. Define infanticide legally. Give proof of live birth, and the natural and criminal causes of death before, during and after delivery.
Ques. 3. Define a wound legally. Classify and give principal characteristics of wounds inflicted on the living and dead body.
Ques. 4. State the modes of sudden death, the symptoms and causes peculiar to each, and the post-mortem appearance.
Ques. 5. How could you distinguish homicide from suicide by the appearance and location of the wounds?

Applicants will answer only four of the above questions.

ALPHABETICALLY ARRANGED LIST OF APPLICANTS FOR LICENSE TO PRACTICE MEDICINE, SURGERY, ETC.
WHO PASSED SATISFACTORY EXAMINATIONS BEFORE THE MEDICAL EXAMINING BOARD OF
VIRGINIA, AUGUST 29th to SEPTEMBER 1st, 1898, AT VIRGINIA BEACH, VA.

NAME OF APPLICANT.	POST-OFFICE.	COLLEGE OF GRADUATION.	YEAR OF GRADUATION.
Davis, E. A.	Hicks' Wharf, Va.	Non-Graduate.	
Fields, M. C.	Baywood, Va.	Medical College of Virginia.	1898
Kellam, S. S.	Onancock, Va.	University of Virginia.	1898
Lilliston, A. H.	Aceonac, Va.	University of Virginia.	1898
McGee, F. C.	Greenwood, Va.	University of Virginia.	1898
Miller, E. R.	Bridgewater, Va.	Medical College of Virginia.	1898
Morrison, James.	Howardsville, Va.	University of Virginia.	1898
Scarf, H. L.	Jannetta, Va.	Medical College of Virginia.	1898
Smith, W. O.	Viola, Va.	University College of Medicine.	1898
Willis, H. T.	Raplan, Va.	University College of Medicine.	1898
Young, S. E.	Baywood, Va.	Baltimore Medical College.	1896

Nos. of exam- ination papers.	LIST OF INSTITUTIONS Whose Graduates were Rejected by the Medical Examining Board of Va., at its Regular Fall Meeting, August 29th to September 1st, 1898. With Percentage Marks of each.	Hygiene and Med. Jurisprudence.	Chemistry.	Anatomy.	Physiology.	Histology, Pathol- ogy, Bacteriology.	Obstetrics and Gynecology.	Material Media and Therapeutics.	Practice.	Surgery.	Total.	Average Percentage	REMARKS.
	COLLEGE OF GRADUATION.												
2	Non-Graduate.	83 1/2	85	58	76	78	73	79	65	42	630 1/2	71	
1	Baltimore Medical College.	57 1/2	36	78	75	80	69	65	34	564 1/2	62		
5	New York University, Medical Department	65	95	59	60	75	70	60	65	635 1/2	70		
6	Leonard Medical College, N. C.	57 1/2	60	33	55	35	60	59	65	29	470	52	
13	Tennessee Medical College.	76	60	26	69	65	89	75	77	712	69		
14	Non-Graduate.	1	33				65		56				
15	Atlanta Medical College.	62 1/2	55	19	44	5	42	33 1/2	50	6	316 1/2	35	
16	Vanderbilt University or McHarry College.	62 1/2	70	25	40	45	46	60 1/2	55	30	453	59	
18	Howard University.	72 1/2	85	57	63	70	78	64 1/2	76	63	629	69	
19	Baltimore Medical College.	65	75	45	76	70	62	64 1/2	68	36	630	62	
20	Non-Graduate.	75	85	61	74	65	68	72 1/2	86	36	622 1/2	69	
23	Missouri Medical College.	75	75		58	45	45	36 1/2	50				

INSTITUTIONS REPRESENTED BY APPLICANTS
WHO CAME BEFORE THE
MEDICAL EXAMINING BOARD OF VIRGINIA,
FALL SESSION AT VIRGINIA BEACH, VA.,
August 29th to September 1st, 1898.

	Total Number of Applicants from each College.	Total Number of Applicants Licensed from each College.	Total Number of Applicants Rejected from each College.	Withdrawals.	Incomplete.
Medical College of Virginia, Richmond, Va.	3	3			
University of Virginia, Charlottesville, Va.	4	4			
University College of Medicine, Richmond, Va.	2	2			
Baltimore Medical College, Baltimore, Md.	3	1			
New York University, Medical Department.	1				
Leonard Medical College, N. C.	1				
Tennessee Medical College.	1				
Atlanta Medical College.	1				
Vanderbilt University or McHarry College.	1				
Howard University, Washington, D. C.	1				
Missouri Medical College.	1				
Non-Graduates.	4	1	3		
Total.	23	11	12		

INSTITUTIONS REPRESENTED BY THE APPLICANTS
BEFORE THE
MEDICAL EXAMINING BOARD OF VIRGINIA,
FROM THE ORGANIZATION OF THE BOARD, JANUARY 1, 1885,
TO AUGUST 29, 1898.

	Total Number from each Institution.	Total Number Licensed First Examination.	Total Number Rejected First Examination.	Licensed on Second Examination.	Rejected Second Examination.	Licensed Third Examination.	Rejected Third Examination.	Incomplete or Withdrew.
Medical College of Virginia.....	219	178	35	4	6	3	3	6
University of Virginia—Medical Department.....	174	170	4	1	1	1		
University College of Medicine, Richmond.....	1	88	9	5	1			
Baltimore Medical College and University Col. of Medicine, Richmond	2	2						
College of Physicians and Surgeons, Baltimore.....	180	94	32	4	1	1		4
University of Maryland.....	144	110	21	2	3	3	8	3
Baltimore Medical College.....	1	1						
Baltimore University.....	9		9	2				
Washington University, Baltimore (Extinct).....	1	1						
National Medical College, Washington, D. C.....	1	1						
University of Georgetown, D. C., Medical Department.....	2	1						
Howard University, Medical Department, Washington, D. C.....	24	5	19		2	1		
University of Maryland and Baltimore Medical College.....	1	1						
Georgetown College, Washington, D. C.....	1	1						
Jefferson Medical College.....	38	26	11	2	1		1	1
Jefferson Medical College and University of Virginia.....								
University of Pennsylvania.....	18	15	3	1				
Medico-Chirurgical College of Philadelphia.....	2	2			1		1	
Medical College of Philadelphia.....	1	1						1
Woman's Medical College of Pennsylvania.....	1	1						
Hahnemann Medical College and Hospital (Homeop.), Philadelphia.....	6	4	2					
University of the City of New York, Medical Department.....	28	17	11		1	1		
University of New York.....	1	1						
University of Virginia and New York.....	1	1						
Bellevue Hospital Medical College, New York.....	18	1	1	1				
University of Virginia and Bellevue Hospital Medical College.....	1	1						
College of Physicians and Surgeons, New York.....	12	11	1	1				
Geneva Medical College, New York (Extinct).....	1	1						
College Physicians and Surgeons, New York, and University of Va.....	1	1						
Long Island College Hospital, Brooklyn.....	4	2	2					
Yale Medical School, New Haven.....	1	1						
University of Vermont, Burlington.....	4	4		2	1			
Miami Medical College, Cincinnati.....	3	3						
Columbus Medical College.....	3	2	1					
Homeopathic Hospital College, Cleveland.....	2	2						
Pulte Medical College, Cincinnati (Homeopathic).....	15	1	9	2	2		2	
Louisville Medical College.....	16	11	5					
University of Louisville, Medical Department.....	8	7	1					
Kentucky School of Medicine, Louisville.....	8	5	3	1				
Hospital Medical College, Louisville.....	8	5	3	1				
Vanderbilt University, Nashville.....	1	6						
University of Tennessee, Nashville.....	1	1						
University of the South, Sevanee, Tenn.....	22	15	7	3	2		2	
Leonard Medical College, Raleigh (Colored).....	3	2	2	1				
Medical College of State of South Carolina, Charleston.....	3	2						
Southern Medical College, Atlanta.....	3	2	3					
Atlanta Medical College.....	3	3						
Tulane University, Medical Department, New Orleans.....	3	3						
University of Louisiana (probably Tulane University).....	1	1						
Medical College of St. Louis (Extinct).....	1	1						
St. Louis Medical College, Missouri.....	1	1						
Detroit Medical College, Michigan.....	3	2	1	1				
University of Michigan, Medical Department, Ann Arbor.....	5	5						
Michigan College of Medicine and Surgery, Detroit.....	3	3						
Chicago Homeopathic Medical College.....	3	3	1					
Hahnemann Medical College and Hospital, Chicago.....	1	1						
University of Heidelberg, Germany.....	1	1						
St. George's Hospital, London.....	2	1	1					
Georgetown University.....	1	1						
King College, London.....	1	1	1	1				
Tennessee Medical College, Knoxville.....	4	1	3	1	2	1	1	
Chattanooga Medical College.....	1	1						
Western Reserve Medical College, Cleveland.....	1	1						
Rush Medical College, Chicago.....	2	2						
National University of Ohio.....	1	1						
Eclectic School, Cincinnati.....	2	2						
Cincinnati Medical College.....	2	1	2					
Southern Homeopathic Medical College, Baltimore.....	6	2	2	1				
Woman's Medical College, Chicago.....	1	1						
Columbian College.....	6	4	2	1	1			
Jefferson Medical College, Phila., and Baltimore Medical College.....	1	1						
Harvard Medical College.....	1	1						
Central Tennessee College.....	1	1						
Woman's Medical College, Cincinnati.....	1	1						
Northwest University, Chicago.....	1	1						
College of Surgeons, London.....	1	1						
Colleges unknown.....	7	4	2					1
University of Vermont and Leonard Medical College.....	1	1	1		1			
Columbian University, D. C.....	1	1						
Starling Medical College, Ohio.....	1	1						
Beaumont Medical College.....	1	1						
Melhar College, Nashville, Tenn.....	1	1			1			
Albany Medical College.....	1	1						
New Orleans School of Medicine.....	1	1						
University of Vermont and Bellevue Medical College.....	1	1						
Missouri Medical College.....	1	55						
Non-Graduates.....	174		111	6	10		3	8
Totals	1,336	984	376	50	43	13	16	26

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Original Communications.

NORMAL SALT SOLUTION.*

By VIRGINIUS HARRISON, A. M., M. D., Richmond, Va.,
Lecturer on the Practice of Surgery, University College of
Medicine, Richmond, Virginia, etc.

To accomplish great results we naturally expect to use great effort. The same results may often be gained in a very simple way. No better illustration of this fact can be cited than in the use of the normal salt solution, whether given by intra-venous, or sub-cutaneous infusion [hypodermoclysis], or by rectal injection [enteroclysis]. In my opinion there is no medicinal agent used at the present time that has such a varied field of usefulness, that is simpler in its application, more prompt in its action, and more certain in its results.

Surgery cannot claim it as a means belonging solely to that branch of medicine, for some of its happiest results are manifested in its application in obstetrics and the practice of medicine, when the system has become poisoned by alcohol, opium, or ptomaines of any nature. The source of the poisoning does not so much determine the usefulness of the salines as does the promptness with which it is used.

Uses in Shock and Hemorrhage.—When we see cases of shock, whether it be due to an impression made upon the nervous system, as from a blow, or due to a local vaso-dilatation of large blood vessels, as in the abdominal cavity, or to direct external hemorrhage, there is no method of treatment that I have seen act so promptly and with as good results as the saline solution. The method to be used must be governed by the demands of the case. Very profound shock will require the direct infusion into a vein, while a less degree will only call for the sub cutaneous infusion, and a still less degree of shock will require the rectal injection.

One point of importance to remember when using the infusion after hemorrhage, is to secure all bleeding points; unless this precaution is observed, you may find that the infusion has been of little service, and on inspection of the wounded parts you will find that the solution has followed the blood through the open mouths of the vessels. I saw this illustrated in a case of injury to the skull. Pieces of the bones had been driven into the brain by a blow from a locomotive. The longitudinal sinus had been ruptured. Intra-venous infusion was resorted to with an almost immediate outpour of the solution through the wounded sinus.

Another case illustrating this point was that of a man who had been shot in the abdomen with a pistol; he was infused by Dr. Hugh M. Taylor, but with no good result. On opening the abdomen, the stomach was found perforated, and a large hole in the liver, from which the solution had escaped along with the blood. While in these two cases the bleeding points could not be secured at once, they serve to illustrate a point well worth noting.

I have seen the saline do good in shock from chloroform. One case I recall was that of a man who had been operated on for appendicitis. The case was a bad one, requiring some time for its completion, and necessitating a large quantity of chloroform. After the operation he was profoundly shocked. Intra-venous infusion was immediately resorted to by Dr. Taylor, which was followed by a return of the pulse at the wrist, and in a few hours the patient had recovered from the shock. But for the timely use of the infusion, I have no doubt but that a life would have been lost.

I have seen the saline solution do good in the crisis of pneumonia, when the patient is weakened down by the sudden dropping of the temperature accompanied with profuse sweating.

Shock may also be prevented by the timely use of the saline solution, or if not prevented, may be lessened in degree. One method of

* Read by title before the Medical Society of Virginia, during its Twenty-ninth Annual Session, at Virginia Beach, Virginia, September 1, 1898.

preventing shock is by the rectal injection of a pint of the solution before the commencement of the operation. Even if shock should supervene, the infusion, sub-cutaneously or direct into the vein, could be resorted to according to the demands of the case, thereby enabling operations to be completed which would be very hazardous to continue without its use. The time when to resort to salines should be left to the anesthetizer, who is *supposed* to be watching the condition of the patient, and should be used before the shock has become profound; this latter would more apt to be the case if left to the operator. The post-operative rectal injection of this solution is valuable in aiding reaction from shock incident to the operation and the chloroform, and also in relieving post-operative thirst. To leave the abdominal cavity filled with the solution after operation, is useful in floating the intestines, and in taking up the remaining blood, etc., and carrying it to the upper part of the cavity where the lymphatics are larger and more numerous, as well as being taken up in the blood.

Sepsis.—In sepsis, from any cause, we have a very valuable agent in the normal saline solution. To relate its value in surgical sepsis, I know of no better way than to report two cases that were treated with this solution. The first case was that of profound sepsis following an operation for double pyosalpinx. For a week her temperature ranged from 104° F. to 106° F.; never lower. After resorting to all means that occurred to me, I tried the rectal injection of the salines with a fall in temperature to 100° in twenty-four hours. These enemata were continued until the acute sepsis was over and the patient well on the road to recovery.

Another case worth reporting in this connection was one of septic peritonitis. After opening the peritoneal cavity and draining, I found the pulse continued rapid and the temperature high. The saline enemata were resorted to, which were followed by a diminution of the temperature and improvement of the pulse. The salines had to be continued for a long time, measured by weeks, until the patient finally recovered. These two patients, in my opinion, would have died had it not been for the salines. Had I to treat these conditions again, I would use the subcutaneous infusion at first and follow with the rectal injections. These results are not unique, for they occur continuously in the hands of surgeons who use the saline solutions.

I have used these solutions in puerpera-

sepsis with very gratifying success. Numerous cases of success have been reported by various observers. The subcutaneous method seems to be the one that is preferable, unless the intensity of the infection is very great.

Renal Insufficiency.—Lavage of the blood with the saline solution, in that condition called uræmia, has saved lives that seemed almost hopeless. It has improved patients before they have gone as far as the urgent stage. If we have symptoms of uræmia, in the early stages we can do much for our patient; but, as a rule, we do not find out that our patient has uræmia until the kidneys have ceased to act well, and the urea is retained in the system in great quantities, as well as the other toxic elements which go to make up the condition known as uræmia. In the early stages, the rectal enemata may be sufficient to enable the skin and kidneys to eliminate the poison, but in the later stage, either the subcutaneous or the intravenous infusion will have to be resorted to. Two cases of this kind I have treated recently with the salines.

The first case was in the seventh month of her eleventh pregnancy, and had had one convulsion a few moments before I saw her. As she was at that time quiet, I ordered a large saline enema to be given at once, and to be repeated every four hours. This was continued for three days, and was then stopped by her, as she said she was well. The fourth day I again saw her after she had had two convulsions. They continued until she had nine. The salines were again given by enemata, and this time they were kept up until the skin and kidneys were eliminating the poison and acting freely. The patient went on to full term, through labor, and had an uneventful convalescence without the return of the convulsions.

Case second was that of a primipara. I saw her at the sixth month of pregnancy. She had symptoms of uræmia, indicated by the urinary examination as well as by the swelling of her legs. By the seventh month she had swollen to such an extent that I put her to bed and on a milk diet. I used several diuretics without reducing the swelling or causing much increase in the amount of urine voided. I now put her on the saline treatment, and gave it by rectal injection. In a very few hours the amount of urine increased; in twenty-four hours the swelling began to diminish, and continued to do so as long as I kept up the salines; but so soon as I left off these, the swelling began to increase, showing that the salines were the means of improvement. The condition of my patient was such as to keep

me on the look out for convulsions, yet she had none before, during, or after labor. When the convulsions are present, the salines play a very important part of the treatment. To bleed the patient of a large quantity of the poisoned fluid and fill the vessels with the salines is now considered the best treatment by many. It has been advised to bleed from one arm while you infuse into the other arm at the same time. I see no objection to severing the vein, putting the forceps on the distal end temporarily until you can insert and secure the infusion apparatus in the proximal end of the vein, and then allow the bleeding to take place from the distal end of the severed vein. Should you allow the bleeding to take place at first, the blood would interfere with the proper introduction of the infusion tube.

A note of warning has been sounded in regard to the use of the salines in organic disease of the kidneys—particularly in old cases. Opinions differ as to the advisability of their use in these cases

Typhoid Fever.—I have seen the patient, pale and pulseless from hemorrhage into the intestines, improve under the intra-venous infusion. The pulse increased in volume and became slower; the respirations more natural, and the color return to the lips. By this means, we may tide the patient over the shock of hemorrhage until the bleeding points become plugged.

This agent may be of service when we wish to eliminate the poison more rapidly—when the temperature is high and the nervous system excited. I have seen recommended the use of the solution by the rectum at the temperature of 32° F. to reduce the fever. Allow the solution to remain in the bowel for fifteen minutes and it will return at the temperature of 100° or over, thereby reducing the fever of the patient to a small degree at any rate.

Another time to employ this agent is when perforation has taken place and intense shock has followed. Here you wish to keep the patient up until you have time to prepare for an operation to suture the rupture. A case in point I operated on forty-eight hours after perforation. The boy was more dead than alive, yet under the intra-venous infusion he stood the operation well, and was in no worse condition after the operation than when it was begun. This case died later in the night from septic peritonitis, present at the time of the operation.

The good results following the use of the saline solution in these conditions of ptomaine poisoning seem to justify the expectation of benefit to be derived by their use in opium-

poisoning, alcoholism, and, in fact, any condition where the blood has become charged with a poison from any source.

These solutions have been used in the *algid stage of Asiatic cholera*. Large quantities have been introduced into the vein, and often repeated, with the result of curing twenty per cent. of the cases, which is a larger proportion than by any other treatment of this stage of cholera. They have also been advised in the treatment of diphtheria and scarlet fever. I have frequently used the solution in the treatment of nephritic colic, and I certainly think it lessened the severity of the attacks.

Physiological and Clinical Action.—All that is accomplished by the saline infusion may not be well understood, but as this agent is more generally used and carefully studied, we will be in a better position to know its action. One fortunate thing about its use is that it does not poison the system. If the solution is given very rapidly or with a great deal of force we may rupture some vessel in an important organ. The solution fills the empty blood vessels, thereby stimulating the heart and arteries to action, supplying the anæmic brain with its proper stimulus. It takes up the remaining red-blood corpuscles and puts them into the circulation. It stimulates the skin and kidneys to action; it also stimulates the intestinal canal, causing it to excrete more fluid. Having opened these three avenues of escape, the elimination of the septic material is materially hastened. The solution does more than this: it dilutes the intensity of the poison circulating in the blood, and lessens the effect upon the system. There is increased leucocytosis aiding in the destruction of the toxic elements.

Whether these statements represent all that is done by the saline solution or not, we do know by their use the condition of the patient is often changed from one of impending dissolution to that of restored normal heart action—increase in the volume of the pulse and regular respiratory function. This restoration is often permanent, requiring only one infusion; should it be necessary to repeat the infusion, it does not add much to the danger. The temporary rise of temperature of a degree or two observed by some is followed by a fall to near normal, and if the fever has been high will be of benefit to the patient. I have used the salines both by the sub-cutaneous and intra-venous methods a great many times, and have never seen any rise in the temperature after its use.

Technique.—The apparatus necessary for the direct intra-venous infusion is simple, and should always be at hand. A fountain syringe

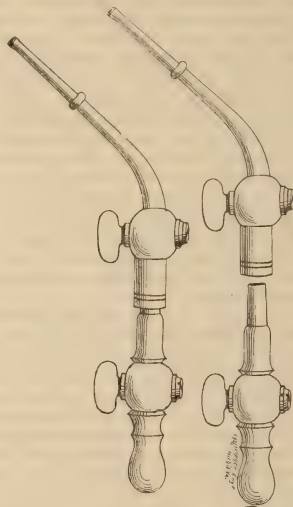
with a common eye-dropper will be all that is necessary. If this is not convenient, a Davidson's syringe will answer. There are special tubes for the introduction into the veins, but I doubt if they have much advantage over the more simple apparatus, except they are more easily applied and better retained in position. Whether the special apparatus or the glass tube is used, the retention in the vein is secured by throwing a ligature around the vein and tube. When introducing the tube into the vein the solution should be allowed to flow until the water in the tube has become warm and allowed to remain flowing while introducing to prevent air getting into the vein. The vessel usually selected is the median basilic or cephalic at the bend of the elbow. I think the left arm should be the one selected.

For sub cutaneous infusions the fountain syringe, with a small aspirating needle, is all that is required. The solution is infused into the sub-mammary or thigh tissue, using gentle massage to hasten the absorption. It is hardly necessary for me to remind you that all appliances and instruments, as well as the hands of the operator and assistants, should be rendered aseptic; this is equally true of the field of operation. For the rectal injection we need only a syringe with a rectal nozzle and the solution. Nothing needs to be sterilized, and is ready both in the most rural district and the metropolitan hospital; consequently no one is excusable for not having used this life-saving agent.

The Solution.—The normal salt solution consists of 58.4 grammes to the litre. The solution used contains 5.84 grammes to the litre, hence it is the *deci-normal solution* instead of the normal solution, as it is usually called.—Gaynor, *American Journal Obstetrics*, Aug., 1898.

We generally accept that the solution consists of one hundred and five grains of salt dissolved in thirty ounces of water, both sterilized. For all practical purposes, one teaspoonful of salt to a pint of water will be near enough the correct strength. The temperature of the solution should be about 105° F., so that it will be near the temperature of the body by the time it passes through the tubing. The force used for the intravenous method should be that of holding the bag about three feet above the patient's body, and for the sub-cutaneous method the bag should be held about four or five feet above the body. The quantity of the solution to be used in the intravenous method will depend upon the effect upon the patient—usually a pint and a half. For the sub-cutaneous method, a quart may be used. You can infuse in more than one location, so that the absorption will take place more rapidly.

A New Infusion Apparatus.—This instrument, devised by me for use in intravenous infusion, and made by Messrs. Bartlett, Garvens & Co., of Richmond, Va., consists of two parts—the first is a tube made of silver, one end being probe-pointed with an eye in the point—this is the end that is introduced into the vein;



the other end is larger and is furnished with a stop-cock. The second part of the instrument is a nickel-plated tube, also furnished with a stop-cock about its middle; one end of this part is for the attachment of the rubber tubing of the syringe, while the other end fits snugly into the free end of the first part.

The advantages claimed for this instrument are—first, the tube can be left in the vein as long as is desired or needed without any danger of air getting into the vein, the flow of saline being stopped by the cock before detaching the second part; second, the intelligent nurse can infuse the patient if this has been left in the vein, while to await the surgeon's arrival, in many instances, would mean to have waited until hope was almost gone. The third advantage claimed is the assistant using this apparatus has control of the rapidity of the flow, as well as stopping it entirely at will, by means of the stop-cock.

No assistant is necessary to hold the bag and to manage the flow. The whole apparatus can be sterilized by boiling.

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TREATMENT OF PELVIC INFLAMMATIONS THROUGH THE VAGINA.*

By WM. RICE PRYOR, M. D., New York, N. Y.

Most of the vaginal operations are either exploratory or conservative, or evacuatve and palliative, or radical.

The exploratory vaginal operation.—In pus cases, with immovably-fixed organs, this is digital, but entirely satisfactory in determining the operative procedure to be followed.

The incision is made into the posterior cul-de-sac, and may be either the crescentic cut I employ, or this supplemented by vertical section of the posterior vaginal wall, as done by Henrotin.

In cases which are not attended by diffuse peritonitis and suppuration, cases of acute purulent salpingitis, hydrosalpinx, adherent occluded tubes, the various ovarian lesions, and those lesser degrees of tubal suppuration that make up the vast proportion of the inflammatory cases which come to us, the exploration may be made both visual and tactile.

Not so much the intra-pelvic adhesions as the condition of the tissues about the cervix prevents a view of all the structures in the pelvis.

In fact, those cases in which pus does not exist at all, cases of advanced genital sclerosis, have so dense a peri-cervical ring that inspection is sometimes most difficult.

Even firm and dense adhesions may be severed through the cul-de-sac just as well as through the belly, and the uterus rendered movable.

When the uterus has been freed from posterior attachments, it is lifted up out of the pelvis behind the symphysis, while the posterior flap is drawn down. Now, if the table be tilted to an angle of 40°, the pelvic floor relaxes, and the intestines gravitate into the abdomen; more space is gained at the vulvar orifice, and an unobstructed view of the pelvic contents may be had.

All this has been done by severing but two anatomical layers—the vaginal mucosa and the peritoneum; no vessels requiring ligature have been cut; and the intestines and omentum have not been handled.

The possibilities of this method of examining the pelvic contents are limited by the pelvic margins only. A great number of times I have shown the vermiform appendix. I have

demonstrated high cancer of the rectum; the obstructed and dilated ureters; pelvic exostoses, and all the various lesions of the adnexa uteri and pelvic peritoneum.

The essential to success with this method of exploration is that the uterus be shoved up out of the way behind the symphysis, and not drawn down into the vagina, completely blocking the view, as done in the anterior vaginal section of Mackenrodt and others.

Now, having thus entered the pelvis, we occupy a position beneath all the pelvic and abdominal organs. We are working at the lowest point of the peritoneal sac. At once it will be apparent to you that we are in a position to apply all operations, the success of which depends upon drainage.

The surgeon feels that, no matter what the amount of discharge which may be furnished, provision is made for its escape; and the possibilities of all those conservative operations which have been tried through the belly and failed, become apparent.

Hydrosalpinx.—I free these cysts of retention from all false adhesions. They are then incised along the upper border for an inch, and the adherent fimbriæ are teased apart. If the tubal wall is very thick, I stitch its lining to the peritoneum with fine catgut (salpingostomy). It is unnecessary to remove hydrosalpinx, inasmuch as the contents of the tubes are sterile and the condition does not recur after the operation. Pregnancy has followed in a case of bilateral hydrosalpinx.

Chronic salpingitis.—The various forms of occluded swollen tubes; pachysalpingitis; chronic purulent salpingitis, etc., are treated like hydrosalpinx, but, after incising the tube, I do not employ suture. There is strong probability that these tubes contain infectious material, and I do not suture in infected areas. After opening these tubes, I place in them a temporary strip of iodoform gauze, which I remove when the operation is finished. Pregnancy has followed.

Ovarian apoplexy or hæmatocele.—These blood clots in the stroma of the ovary, while sometimes an inch or more in diameter, do not destroy the entire organ. I incise the cyst and peel out the thick, yellowish lining membrane. After this is done, the flabby edges are carefully trimmed with scissors. If the edges fall easily together, and there is no prominent oozing, I do not suture; but if there be gaping and small spouting arterioles, I approximate the edges with a running suture of fine chromic catgut. Pregnancy has followed.

Cystic ovaries are drawn into the vagina and

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the cysts punctured with a bistoury. I do not believe that cystic ovaries should ever be removed. I dislike to apply sutures to any structure upon which I attempt conservatism. Sutures strangulate the already damaged tissues; they lock in discharges and furnish a foreign material which must be absorbed. Pregnancy has followed.

Little difficulty is experienced in applying the sutures—no more than is involved in plastic work upon the uterus.

Acute salpingitis and peritonitis.—These, the first complications of serious nature due to infection of the pelvic structures, have become so frequent that they almost constitute a problem in our social life. Our shifting population, in morals obedient only to the laws; our lack of all control over venereal diseases, while permitting the freest opportunity to contract them; and, I may be pardoned if I say it, the aggressiveness of minor gynæcology in unprepared hands have, more than gross filth of the surroundings, caused the vast proportion of pelvic inflammatory lesions. When we meet with a neoplasm, it is after ten women with some sort of infection have come to us.

Seeing so many cases in their very inception, and knowing the results following an unchecked infection, I have attempted to meet these diseases somewhere between their first manifestation and the gross pus tube or ovary. I have begun to treat them in their acute stage.

So soon as I see that an infection has passed beyond the uterus, I enter the pelvic peritoneum. Although the effusion of lymph, closure of tubes, and adhesions serve a good purpose, in that they tend to limit the infection, yet they result in the most destructive lesions of the pelvic viscera. I at once enter the cul-de-sac and sever all adhesions. Great gentleness is necessary, because it is exceedingly easy to tear these swollen livid tubes. The adherent fimbriae are opened, the tube is temporarily packed with gauze, and a most thorough liberation of adherent organs is done. I carefully wipe the pelvis dry, but do not irrigate. By this procedure I seek to *prevent suppuration*. These infections proceed through the uterus, extending along the tubes or lymphatics. It has seemed to me that if I could cleanse the uterus and the tubes, and furnish free drainage, I could stop the process in its first stage. That I have done so in all cases of first attack I assure you. The probability of success diminishes with each attack of infection, for with each invasion, the repair power becomes less and the changes permanent.

The fluid evacuated from these tubes is al-

ways muddy and frequently purulent. The quantity of fluid is variable, but that is not material. We are here dealing with acutely inflamed organs, and I imagine the procedure suggested will differ radically from those to which you are used. This line of work I consider the glory of the vaginal method. Ovaries, tubes and uterus can be removed by the abdomen with little mortality.

Conservatism may even be applied to certain chronic lesions, with some degree of success, through the belly. But so essential is drainage in the treatment of these cases of acute salpingitis and peritonitis, that the vaginal route alone can be employed with any hope of success.

The general practitioner first sees these cases, and it is in his hands that the operation must find its greatest application. It is offered to him as a substitute for opium and poultices, and as a preventive against the vaginal hysterectomy and abdominal salpingo-oöphorectomy. These organs, of all in the body, are most liberally supplied with blood. The arteries are in marked disproportion to the organs nourished, and there is a double arterial supply. To deny power of recovery and repair to such organs, when cleansed and drained, is to set them apart from the application of rules which are operative in the rest of the body. Women have gonorrhœa with extension to the tubes and peritoneum. They also abort and become infected. A few go through an attack without treatment and recover, with restoration of function in all the invaded organs. All infected cases do not have pyosalpinx and ovarian abscess result. Yet, upon examination, we can appreciate the presence of the complications, and it would appear impossible for resolution to take place. Yet some do refuse operation and do recover, with disappearance of all symptoms and local signs of adnexal disease. I believe that these few cases can be made the many if to the normal resistant action of the tissues we lend the aid of drainage. I believe that we can prevent suppuration in these inflamed organs. Since beginning this work, I have not removed these acutely inflamed organs, and have no cause to regret substituting the cul-de-sac operation for the opium and poultice. To refuse this operation to a woman is but to allow the infection to run riot in her pelvis and invite the mutilation which accompanies the future coliotomy or vaginal extirpation. But, whereas this operation proves curative in first attacks, it will be no more than palliative when done after repeated infections have occurred. But even though a radical

cure in these recurrent cases is not to be expected, the infection is cut short, and marked repair takes place in the invaded organs. Pregnancy has followed this operation.

The palliative evacuative operations.—I have thus far spoken of those vaginal operations which are reliably curative of the conditions for which they are done. There is another class of cases in which, while subjective symptoms are relieved, there yet remains some evidence of disease. Where a pyosalpinx is situated below the cornu of the uterus—that is, where it is not drawn high up by attachments to the intestines—it can readily be reached through the posterior vaginal incision. In certain cases, it is undesirable to remove a pyosalpinx. These are cases where the suppuration is due to gonorrhœa; for, when this causes the pus tube, the tube of the other side is always more or less damaged. By celiotomy, the grosser lesion can be removed, but what is the fate of the tube which is left? Whenever I have performed abdominal section for a pyosalpinx due to gonorrhœa, I have found the tube of the other side so diseased that, were the operation made for it alone, its removal would be warranted. Yet I have left such tubes, being unwilling to take out both and suddenly precipitate the woman into an artificial menopause. What is the fate of the tube which is left? A certain number formed pyosalpinx, others remained in a state of chronic inflammation, producing painful symptoms. So far as I can learn, they have never become sufficiently normal to convey an ovum to the uterus, for these cases do not bear children, although menstruating. Pray remember that I am speaking of gonorrhœa of the tubes. My belief, simply expressed, is that, when gonorrhœa passes outside the uterus, bilateral salpingitis results, although the gross lesions may be far more marked upon one side than on the other. Cases have been reported which had pus tubes co existing with pregnancy, but there is no evidence to show that these cases were gonorrhœic. It is certainly to be remarked that those women, from whom a pus tube, due to gonorrhœa, has been removed from one side, are sterile. The sterility of prostitutes is notorious. The question then narrows down to (a) removal by abdominal section of one tube, leaving the other partially damaged; (b) a palliative evacuative operation through the vagina, or (c) a vaginal ablation.

I prefer the second procedure in most cases.

I open the cul-de-sac by a crescentic incision. This is enlarged bilaterally with the fingers. A cautious and careful digital examination is

made of the pelvis. Finding the pus tube, I do not attempt to free it *above*, but only *below*. I commonly puncture the tube with scissors and tear a broad rent into it with my fingers. As the pus escapes, I wipe it away, but do not wash. The tube is packed full of iodoform gauze temporarily. The less affected tube is now sought for, and will usually be found with agglutinated fimbriae. These are teased apart and the tube cleansed with a thin filament of iodoform gauze. This is removed in a few minutes and the large pus cavity is filled with fresh gauze, which hangs in the vagina. The pelvis is then lightly packed. By this operation I cleanse a suppurating focus, and place the less affected tube in a condition to recover. Further than this, I relieve these women of all symptoms. The first dressings are in a week. They are removed and carefully replaced. The pus sac becomes obliterated and converted into connective tissue. I have seen no case of pregnancy after such work, but the relief from symptoms is as certain as by removal. That these women return to the men who infect them is certain, but it is an interesting experience that those thus treated are less likely to suffer from subsequent attacks of pyosalpinx than at first. The explanation is found in the closure of the tubes by connective tissue, and gonorrhœa travels by continuity of similar tissues only. Understand me, I am discussing cases which have advanced beyond the first acute stage. When I have bilateral purulent cysts to deal with, I prefer the evacuative operation in young women and the vaginal ablation in women over thirty.

This method of treating tubal suppuration must not be confounded with the old trocar puncture. This procedure necessitated passing the trocar through all tissues lying between the pus and the vagina; it provided no means for escape of the pus; if pus was not found, this was no proof that it was not there; and trocar evacuation did not guard against re-formation of the pus. The free incision I recommend, supplemented by the careful application of sterilizing dressings, not only relieves from all symptoms, but, by converting the tube into a mass of connective tissue, it actually guards against future suppuration.

Whenever pus in the pelvis is of septic origin, and if unilateral, I prefer either a local evacuation or else an abdominal removal. Septic pyosalpinx and ovarian abscess are sometimes unilateral, and we may find the opposite tube and ovary perfectly normal. The reason for this is found in the manner in which these foci form, namely: by unilateral infection

of the uterus usually at a placental site, and unilateral pelvic lymphangitis results. The tube becomes sealed by peritonitis, is infected, and a pyosalpinx forms. These are the tubes we find with high attachments, because they form when held high up by an enlarged uterus.

Where ovaries are situated within reach of the examining finger, they may be treated just as are pyosalpinx.

As a general proposition, I may say that the greater the degree of suppurative, the less the indication for celiotomy. Take, for instance, an old case of bilateral suppurative, with repeated recurrences of peritonitis, or a case of diffuse suppurative. The indication is for either an evacuative operation through the vagina or else a vaginal ablation. Whenever there are more pockets than one, I try to enter all and pack each with gauze. But if small ones are overlooked, they will break into the drainage space. This vaginal evacuation will remove the most critical case from the emergency class and place her in the class where an elective radical operation can be done. It were well if we could do this with all intra-abdominal suppurations—those of appendicial origin, for instance.

There is a class of cases which I cannot discuss here—namely, the puerperal—for my time is limited. But suffice it to say, that whenever I find a puerperal case resists intra-uterine douches, I curette and open the cul-de-sac. I can point to vicious cases of general septicæmia (puerperal), with pus free in the pelvis, a beginning suppurative peritonitis, cured by this operation. And in general pelvic peritonitis, short of suppurative, the operation is equally effective.

I may reply to a question which is probably in the minds of all of you: Why perform the palliative operations when removal would radically cure? Certain of these cases of pelvic suppurative are in such miserable general condition that to add to their debility the tax of a radical operation would be to kill them. Therefore, evacuation of the results of the inflammation is indicated to tide them over the acute stage and grant time, during which very essential treatment can be instituted to prepare them for a radical operation. This is particularly true of all cases of streptococcus infection, for lung, heart and kidney complications so often attend these cases. Again, in certain cases, notably of pyosalpinx, situated low down, the evacuation of pus and conversion of the pus sacs into connective tissue bundles, apparently cures them of local and subjective symptoms. I say "apparently," for the new scar

tissue into which such pus sacs are converted must be permanent. Again, in very young women, women under twenty-five, it is most undesirable to check so important a function as menstruation in the formative period of life. I cannot say that doing so will shorten life, but I have thought that psychic disturbances of a grave nature attend the consciousness by a woman that she is not like other women, as well as essential physical changes. If a woman has developed a sexual appetite, I do not find that this is changed by the operation of ablation; but if she has no desire for intercourse, she will not develop it after operation. Furthermore, the radical operation is followed by rapid atrophy of the external genitals and vagina when done in young women, and the young organs assume the characteristics of senility; they tear easily and lose their elasticity.

So much for the reasons for palliative work which very properly influence the surgeon. But when the question is laid before women fairly, whether they had rather retain their organs and have a qualified result from a palliative operation, or lose their organs and be insured immunity from future pelvic inflammatory lesions, some will unhesitatingly choose the former course. There are women who prefer to retain their special organs, suffer occasionally, but yet feel that they are women. There are other women to whom the loss of their organs is worse than death. These, I know, are sentiments—they are women's sentiments—and difficult for us to appreciate.

I believe that castration is a most excellent procedure for prostatic hypertrophy, but I have yet to learn that it is readily accepted by men. That also is due to sentiment. So, then, there is every reason to attempt to preserve the menstrual function to women, with the ovaries, and the vaginal operations alone admit of this where there are bilateral pus foci.

I wish to call your attention to recent investigations made by a number of experimenters, notably Prof. Curatulo, of Rome, Italy, regarding the influence of the ovaries upon metabolism. Suffice it to say that they show that the ovaries play a far more important part in determining the tissue changes than either the tubes or uterus. They are of more value to women, and conservative operations upon them should always be carried out when possible. They should never be sacrificed unless broken down in pus or the seat of neoplasm.

121 E. 38th Street.

TREATMENT OF INEBRIETY.*

By T. D. CROTHERS, M. D., Hartford, Conn.,

Superintendent Walnut Lodge Hospital, Hartford, etc.

Within a very recent time the destructive influence of alcohol on the body has been recognized. All the newer text-books and systems of practice point out the dangers from alcohol and its influence as a contributory cause in many diseases, both of the various organs of the body as well as of the brain and nervous system.

The modern clinician inquires if there is a history of alcoholism or the moderate use of spirits in all cases, and this fact is important in the knowledge and treatment of the case. Next to the complication of syphilis, alcohol is a most important influence in the causation. In many obscure neuroses a history of the use of alcohol is more significant than syphilis as a factor of degeneration and disease.

The various palsies and mental derangements, also the disturbances of nutrition and circulation, and obscure organic affections, are clearer and better understood when you can eliminate all alcoholic causation. When pneumonia appears, the prognosis is very different if you can eliminate alcohol taking.

In all surgical treatment the former use of alcohol complicates the results, and in fevers it plays a very important rôle.

While alcohol is still used as a medicine, in many instances, its influence in the cause of diseases, both as active, predisposing, and contributory, is becoming more and more prominent.

Recent laboratory and clinical researches show that alcohol, used continuously, is a cell and tissue poison of a peculiar corroding nature. It not only is a toxin, but produces toxins which are both chemical and psychical poisons.

These facts are confirmed in many ways, and open up a new field of chemical, physiological, pathological, and psychological research, which invites every medical man to enter and examine for himself.

This factor of alcohol, to be recognized in disease, and to be considered in the prognosis and treatment, does not require specific treatment, but simply a modification of present therapeutic means and measures.

The extreme users of alcohol, the inebriates, the alcoholics, the poor unfortunates found in

almost every neighborhood, who drink to excess, become stupid, delirious, and demented, and who are often criminal when poisoned with alcohol, are the persons who appeal to us for help which we are practically unable to give; we sit still while clergymen, philanthropists and arrant quacks treat them. They become more degenerate, create centers of disease, and the most dangerous unsanitary conditions of life and living. The advent of a contagious disease startles the community, and the medical man is called on at once for help.

The alcoholic poison case, who is dangerous by reason of his sudden explosive insanity, and the moral and physical degradation and disease centers which he promotes, creates no alarm. He is the subject for humor, his demented state excites laughter, and philanthropists, clergymen and police courts treat him—the former by persuasion and the pledge, and the law by intimidation, suffering, and humiliation. The result is an increase of his malady, with chronicity, incurability and death.

Statistics which cannot be mistaken show that the arrest and punishment of inebriates by fine and imprisonment increased the craze for spirits by destroying the capacity to abstain, lowering the moral of the man, and adding new difficulties to his mental and physical powers of normal growth.

This is proven by the records of courts. Ninety-six per cent. of all persons who were punished for the first intoxication are returned for the same offence over and over again until death. Instead of deterring, it is, in reality, an active exciting cause.

The pledge and prayer are failures as remedies, but are not so disastrous. In the pledge movement of the Washington Society of 1840 over two million persons were pledged to a life of total abstinence in societies. Six years later they had disappeared as societies, and the number of persons who were cured was unknown. The Murphy movement, and the Gospel Temperance movement were each equally evanescent, and come and go like clouds.

Recent scientific investigations explain this clearly. The drink evil and its victims, the inebriates, are not moral disorders; they are not vicious criminal tendencies in human nature; they are physical conditions, symptoms of degeneration and poisoning of the nerve centers, diseases, organized degenerations moving along lines of cause and effect with as much exactness as anything in nature.

This disease is following the same parallel lines of history as insanity, epilepsy, hysteria, and other diseases. For a long time it was

* Read by title during the Twenty-Ninth Annual Session of the Medical Society of Virginia at Virginia Beach, Va., August 30, 31, and September 1, 1898.

considered to be possession by the evil one, a moral affection, and the weak, vicious tendencies of the sinful man, the remedy for which was severe punishment, even to death, pain, suffering, intimidation, prayer, physic, force, and then came the quack and his faith measures.

Insanity, hysteria, epilepsy, and other diseases have come into the realms of science and passed the stage of empiricism and credulity. They are recognized by the general practitioner, and treated in the early stages as physical affections.

The drink poison cures of inebriety still remain in the region of credulity. For over a quarter of a century I have been urging with others the recognition of the physical conditions of these cases, and the necessity of physical treatment by the family physician at home in the early stages. This view has been opposed and doubted by moralists and others, and has been slowly growing along lines of scientific advance.

The charlatan, who usually displays a considerable knowledge of human weakness, has for years been pressing on the public remedies for the physical state of inebriety. Finally, the growth of the disease theory had attained a sufficient magnitude to be a good working ground for such efforts. Then came the "Gold Cures," the central doctrine of which was: "Inebriety is a disease, and we have discovered a secret specific to permanently eradicate it."

For five years these specific secret cures have been urged in all directions. Like the pledge and prayer cures, the enthusiastic cured ones all disappear, relapse, and pass away. The boasted 95 or 98 per cent. of restorations appear like the baseless fabric of a dream.

We are realizing now that, like the legal cures of our towns and cities, specific cures have left the poor victims more incurable than ever.

This is not opinion or theory, but can be seen in every community where these victims are to be found. The reason is apparent in the indiscriminate use of powerful drugs to all the various physical conditions of inebriety. The physical injury to an organization already diseased by unknown drugs, given in an unknown way, is increased with absolute certainty. In the same way punishment by fine and imprisonment of all persons alike, increases the degeneration and conditions which favor the growth of inebriety. The common observation of the chronicity and incurability of the inebriate who has been punished by jail sentences fully confirms this.

Whether the number of inebriates is increas-

ing in this country or not, is uncertain; at all events, the permanence of the injury and direct consequences from alcohol are more apparent.

The possibility of cure or restoration by medical means, which has been foreshadowed for some centuries, has become a reality that is practical and tangible to-day. The one hundred and more asylums in this country and Europe, whose inmates are nearly all incurables, or persons who have used alcohol for years and become extremely degenerated, are able to cure or restore from 25 to 30 per cent. of all cases. From statistics, these inebriates continue total abstainers, living natural normal lives, for twenty and more years after treatment.

It is the rule that no inebriates ever consent to take asylum treatment until very serious alarming stages of the malady are reached, in the same way that no insane ever recognize their own condition; and were it not for friends would never come under medical care. The inebriate has the delusion of power to treat himself and to stop at any moment the use of alcohol.

Hence, all asylums are literally chronic hospitals for the worst cases, and the wonder is that with all our imperfect appliances and want of legal power of restraint, any case is cured.

Each asylum and hospital brings the strongest proof of the curability of these cases in the early stages, and, in fact, all stages, only less in degree as the case progresses. The profession should recognize the physical character of the drink symptom, and the profound injury of alcohol to the nerve centers and organism, and treat it with the same promptness as any other nervous disease.

I am sure that not far away in the future every person who persists in using spirits daily to intoxication, or otherwise, and every periodical drinker who at intervals uses spirits to excess, will come under medical care and be treated by the family physician with success. The family physician will be familiar with his heredity and surroundings, and will be able to correct errors of living and work and sources of exhaustion, and to point out changes necessary for health.

Each case is peculiar to itself, and must be treated from the conditions present. The first thing is to ascertain the most probable cause of the drink craze; it may often come from nerve exhaustion and some profound central nerve fatigue which calls for relief, and finds in alcohol a most gratifying narcotic. This exhaustion may come from overwork, imperfect and irregular sleep, business cares, worry,

anxiety, grief, and many emotional disturbances. Shocks from injuries, sunstroke, and the exhausting sequelæ of wasting disease, are also common. Sexual excesses, nutrient excesses, with starvation and neglect of food essential, with irregularities of living, these are some of the active causes demanding relief from spirits.

Beyond this comes a wide field of predispositions, heredities, mental contagions in society surroundings, and theories which lead up to alcohol as a remedy.

Farther on are insanities, epilepsies, palsies, and many complex nerve and brain defects, which show themselves in the alcoholic craze or symptom.

In a large number of the periodical inebriates the craze for alcohol is only a symptom. The real disease is back of that; the checking of the craze is not the cure, but often unmasks the real causation.

In dipsomania, convulsive insanity is present, the overpowering desire for spirits can be changed to one for drugs, and in other directions at the will of the physician.

In all these persons there are three very prominent pathological conditions present—namely, poisoning, exhaustion, and starvation.

Alcohol is not only a toxin itself, but it creates toxins, and by lessening the power of resistance in blood and tissue, favors the growth of dangerous bacteria.

Exhaustion follows from the continual depression and narcotism which come from alcohol.

The sensory derangements and the nutrient disturbances from spirits encourage states of starvation and cell disorganization.

The first treatment is the removal of the most prominent causes. This is not always alcohol, but often some source of irritation and exhaustion in living and surroundings.

The removal of alcohol can be accomplished by substitution; strong infusions of cinchona or quassia, or any similar bitter, given in two-ounce doses every hour, will be followed by a profound disgust for spirits and a sudden willing abstinence. The quack method of provoking emesis, and impressing the mind with an idea of the poisonous action of alcohol present, is dangerous in many ways. A number of bitter drugs given freely in large doses seem to destroy all taste and desire for spirits, with no injury to the organism.

Strychnin is an excellent tonic later in the treatment, after the first two days, and particularly if the kidneys are not diseased and the drug is not counter-indicated.

In certain cases strychnin can be given with the best results, but it is by no means a specific. Nux vomica is excellent, and can be given a longer time with more prominent effects. In private practice, a pill of nux vomica one-fourth of a grain every three hours, is found to be very valuable, and can be used for a long time safely.

Saline cathartics with mercury should be used first, along with the bitter infusions; then strychnia or nux vomica every three hours for the first three days—strychnia one-thirtieth of a grain every three hours for one or two weeks—then larger doses at longer intervals.

Iron is of value after the first ten days, and may be continued for eight or ten days at a time, at intervals of equal length.

In connection with salines at the beginning, hot water baths are the great essentials. Where the Turkish bath or sweat bath under a cloth or in a bath box can be given, the results are better. The object to be attained by the baths is the rapid elimination of the toxins through the skin.

The waste from faulty elimination and by products of decomposition must be eliminated through the skin as well as the bowels and kidneys.

I have, in some cases, produced astonishing results by profuse sweating and rubbing; the reason was simply the throwing off of the poison which had accumulated in the system. A beer-drinker, supposed to have cerebral hemorrhage, was restored in a brief time by profuse sweating and rubbing, with saline drinks and restricted diet.

Where you are called to see an inebriate in a comatose state, give him a profuse rubbing with hot water and soap. If no other facilities will permit, give him simply a sponge bath, then a cathartic, always saline. To arouse him from the alcoholic coma, hot and cold applications of water to his head and spine or whole body should be given freely. Where bathing facilities can be had, shower baths are effective in a brief time, then infusions of bark until his system is saturated and all thirst for spirits gone. Then rest and building up on the broadest principles of science.

Always remember that the system is poisoned and starved. As in a poisoned state, elimination is the first thing to be accomplished, with removal of the poison. Then tonics and nutrients, according to the needs of the person.

I give the records of three inebriates treated successfully in the early stages:

John Jones, a manufacturer in active busi-

ness, using spirits every day, never to intoxication. Stopped business for three days; was treated at his home with hot shower-baths and rubbing, with infusions of cinchona every two or three hours, saline purges and full diet. At the end of three days he resumed business and was given strychnia one-twentieth of a grain every three hours. At night, bromide of sodium in 50-grain doses was given the first two nights at home, then at intervals of two or more days for two weeks. A tonic pill of iron, phosphorus, nux vomica, and cannabis indica, was given four times a day. He spent four hours a day in the factory, and the rest of the time at home in bed, using baths and rubbing twice a day.

Inebriety, in this instance, was from exhaustion, and now, two years later, the restoration has been complete, and the man is in active business.

John Smith was from a neurotic family, and, after a war experience, became a periodical drinker. The periods recurred at regular intervals. After several failures by moral remedies, he came under my care.

A week before the return of the drink paroxysm he was given calomel and saline purgatives and nux vomica pills, one-fourth grain every two hours. His diet and bathing were carefully arranged. A tonic of hypophosphites, with iron and bark, was freely given. Bromide was given occasionally at night. The drink craze did not appear. His work and living were regulated to avoid all strains and emotional excitement.

This general treatment was followed up for over a year with the best results.

John Brown, at the head of a large business house, had drunk regularly for 30 years. He was intoxicated often at night, and appealed to his family physician for help.

A Turkish bath was given twice a day, with long rests in bed after the bath. Infusions of cinchona every hour for the first day, and every two hours the second day, were given. Mineral waters with magnesia, for a cathartic effect, with bromide at night, were used. The taste for spirits soon passed away, and a general tonic treatment, with strychnin, nux vomica, and mineral tonics, followed for a year with full restoration.

These are types of a large class of active men, who have not reached incurable stages, and who can be treated successfully by the family physician. This treatment must be intelligent, persistent, and include many things that are special to the man and his conditions,

such as hygienic care of the body, rest, change, and nutrition, exercise, and so on.

Another class of inebriates, more or less incurable, often haunt the office of the physician for help, and are considered usually nuisances. They come intoxicated, or call the physician at unusual hours, and demand services which they are unable to remunerate him for. It is these cases which have made the reputation of the "Gold Cure" specifics. After a few days' treatment, the desire for spirits subsides, and this has been called a cure. In some cases, this cessation of the drink craze has lasted for months, and longer.

Every medical man could have done this, and more, with a little attention and personal care for the first two days. With a strong infusion of cinchona every hour, the same subsidence of the drink craze would quickly follow. Then to follow it up with strychnia, calomel, and salines, and a more positive cure could be obtained than by any specific drugs.

There are a number of medical men who claim to have specific remedies, and who are treating inebriates in large numbers by these means, more or less disguised. Of course their patrons are among the most incurable of cases, and the relief from the desire for spirits is so grateful a change that they are willing to take anything and are buoyed up by any hope. These incurable inebriates can be all temporarily helped by the family physician, and some of them restored to temperate living. They will be housed in the near future in State industrial farms and made self-supporting.

A wider knowledge of these cases will show an early stage which is amenable to successful treatment by the family physician. It will also open up a new and most practical field for the treatment of such persons in the early stage and their final cure. Many of the inebriates who come under my care should have been treated by the family physician long ago, and could have been cured with far more certainty than at present.

The quackish gold and other cures furnish the strongest evidence of the curability of the inebriate, even to the temporary restoration of incurables, at home. Every asylum where these persons are received has equally strong evidence of the possibility of cure in the early stages, as well as the hopefulness of the present effort. What is needed is the intelligent co-operation and aid of the home physician. He can determine and treat successfully in the early stages, and decide when asylum cure is better than home treatment, and the asylum

physician can send back for home treatment persons whose restoration has begun.

The most successful results in restoration and cure I have had have been with the aid of the family physician. He has not only pointed out the conditions present, but has begun the proper treatment, and continued it after the case has come from the asylum, and the result has been beyond all expectation.

The facts I wish to make prominent in this paper may be grouped into the following:

1st. Alcohol is becoming more and more prominent as a factor in the causation of disease, and in the prognosis and treatment.

2nd. The disease of inebriety has become so well established that its practical recognition and treatment by the family physician should follow in all cases.

3rd. The inebriate is literally both poisoned and starved, and common sense principles should apply. There is no mystery and no doubt of results, if the means are used.

4th. The possibility of cure is established by facts beyond question. The obstacles are, failure of early recognition and the use of unsuitable, quackish means.

5th. The gold and other cures are only the application of common remedies, which every physician should use with greater success.

6th. Every case can be restored, and many permanently cured, by the intelligent co-operation of the family and asylum physicians; both home and asylum treatment are found invaluable in most instances.

7th. The successful cure and prevention of inebriety is a medical problem, the solution of which will open up a new field of practice that promises as great possibilities as any other department of medicine.

HYDROGEN PEROXIDE IN THE TREATMENT OF PUERPERAL SEPSIS.*

By JOHN N. UPSHUR, M. D., Richmond, Va.,

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Two principles of fundamental importance concerning puerperal sepsis are, first, that in these days of advanced asepsis puerperal sepsis should not ordinarily occur, and, second, if it does occur, it should be treated aseptically rather than antiseptically. An exception to the first principle is found in such cases as are autogenetic—a class of cases which, although

their existence is denied by competent authority, the writer is convinced are sometimes encountered. These unpreventable ones are exemplified by instances of putrefaction and subsequent sepsis occurring in women, in whose products of conception life has been extinct for several weeks.

When sepsis results from external causes, it is because the accoucheur or nurse has failed to secure surgical cleanliness. This, in most instances, is highly reprehensible. It is true that in the humble walks of life poverty, filth and ignorance are powerful factors in the causation of sepsis, and frequently triumph in spite of the physician's most watchful care. Elevation of temperature, not dependent upon some easily removable or transient causes, such as constipation or the first secretion of milk, but associated with scanty, offensive or absent lochia, is the invariable indication that infection has taken place, and that prompt clearing of the uterine cavity is imperative.

The writer's method of treatment in these cases is to first irrigate the interior of the uterus with a normal salt solution, remove secundines or other retained foreign materials by means of the sharp curette, then again irrigate freely with salt solution. After thoroughly drying with aseptic cotton or gauze, hydrogen peroxide is applied to the uterine cavity by means of a small intra-uterine syringe, or an applicator upon which is wound a piece of aseptic gauze or absorbent cotton saturated with the agent. The foam should be removed and fresh applications made until the cessation of foaming gives positive evidence that the uterine cavity has been thoroughly cleansed. This procedure should be practised daily until the temperature falls to normal and remains at that point. This, in the writer's experience, always occurs within a week. The following cases are illustrative of the efficacy of this mode of treatment:

CASE I.—Mrs. H., aged 40, in her seventh labor, as the result of rigid cervix and violent uterine contractions, had rupture of the uterus in its long diameter, involving four-fifths of the thickness of the wall. Mural abscess and sepsis followed, associated with profuse, offensive lochia, the color of dirty dish-water. On the fifth day, the uterus was above the pubis and spongy. The ordinarily recommended treatment was practiced without improvement, but on the eighth day the method above detailed, with hydrogen peroxide, etc., was instituted, with the result that the temperature immediately fell to the normal point and the patient made a good recovery.

*Read before the Richmond Academy of Medicine and Surgery, October 11, 1898.

CASE II.—Mrs. D., delivered of her third child two months prematurely. Baby, much emaciated in consequence of interference with nutrition from placental degeneration, lived twelve hours. Within the first five days the temperature ranged from 101° to 105° F., and the usual concomitant symptoms of sepsis were present. On the sixth day after delivery, curettage, with free douching of hot salt solution, was practiced, and the usual application of hydrogen peroxide was made. Temperature taken half hour after treatment showed a fall of one degree, while on the seventh day it was normal. From this date on, convalescence was uninterrupted, and the patient was out of bed as early as though no complication had occurred.

CASE III.—Mrs. S., after rapid delivery, did well for nine days, when the usual symptoms of puerperal sepsis appeared, due in all probability to her wretched surroundings, lack of proper nursing, etc. The treatment above detailed was exhibited, the temperature promptly returned to normal, and there was speedy and satisfactory convalescence.

The *rationale* of the treatment by hydrogen peroxide is that this agent causes a rapid oxidation or super-oxidation of effete organic matter, thus completing in a very short time what it would take the unassisted process of nature a dangerously long period to accomplish. It initiates, but infinitely improves and accelerates, the efforts of the human organism to remove offending foreign materials. The advantage of this agent over mercuric chloride, carbolic acid, and other agents that act chemically, is that it is non-corrosive and non-destructive of healthy tissue. Furthermore, the results obtained from the use of hydrogen peroxide are vastly superior to those obtained by the use of any other agent, so that the writer now approaches the treatment of puerperal sepsis with less fear of unfortunate results than he has ever before experienced.

210 West Grace Street.

A CASE OF LOOSE CARTILAGE IN THE KNEE-JOINT.*

By LLEWELLYN ELIOT, M. D., Washington, D. C.

W——, white, male, adult, injured the right knee about six years ago. At the time he suffered considerable pain, but eventually suffered no inconvenience. About four or five months ago, began to experience pain in

the joint, and then noticed a moveable body. He was treated for rheumatism by internal medication, and for a sprain with massage, liniments, and electricity. At the time of my first consultation the knee was treacherous, giving way at unusual times, causing suffering and detention from business, nor was he able to properly ascend the stairs. A rubber bandage afforded relief, but this was only temporary.

On April 11th, I removed a piece of cartilage of irregular size, $1 \times \frac{3}{4} \times \frac{1}{4}$ inch; the wound healed rapidly. On April 22d, he noticed a second free body; this was removed on April 26th; was of more irregular shape than the first piece, $1 \frac{1}{2} \times 1 \frac{1}{2} \times \frac{1}{4}$ inch; this wound also healed rapidly. The pieces were both taken from the same wound. Each piece was crowded as far from the joint as possible, and then removed from the outer side of the joint. At the second operation, I explored with my finger as much of the joint as was possible. No attempt was made to peg these pieces to the articular surfaces, as I thought the time of their separation had been too long. At the time of the first operation the second piece of cartilage was not free, and therefore not discovered.

In making these operations I employed for sutures the Red Cross aseptic catgut, and with the greatest satisfaction. The method of the preparation of these sutures is so well known I shall not give the details.

DISCUSSION.

DR. BOVEE said the specimens were of great interest. He was especially interested in the catgut presented. The points to be remembered in the selection of catgut ligatures are their freedom from infection, that they do not corrode the tissues, do not slip or yield. Different manufacturing firms have different scales for numerous catgut, and therefore no reliance is to be placed on their measurements. Uses practically no other ligature material. At Providence Hospital it is prepared by dry heat and cremol, while in Columbia Hospital formalin and alcohol are used. Has removed formalin catgut from a dog three months after insertion. In these cases there was a slight serous discharge.

DR. CARR said catgut in the form presented is most convenient, but even in these packages care must be used to prevent infection. Dr. Reed infected catgut by simply touching the side of the bottle containing it. Thought the best way to prepare catgut was to harden in formalin, but do not sterilize; boil it when needed, all the formalin could be washed out by running water.

* Read before the Medical and Surgical Society of the District of Columbia, October, 1898.

DR. ELIOT said he had used all sorts of catgut, but was so well satisfied with this that he used it to the exclusion of all others. The catgut put on spools, then placed in various solutions in rubber-stopped bottles, was deluding, for the rubber became soft and gummy and dirty, and when the ligature was drawn out it was unsafe. The firm preparing the ligatures presented was not an exception to the rule. Found ligature broke too often upon little traction.

ACUTE MILIARY TUBERCULOSIS.

By SWITHIN CHANDLER, M. D., Wilmington, Del.

In no less authority than Austin Flint, Sr., we have the statement that cases of acute miliary tuberculosis are rare. Both our English and American writers give it but small consideration, yet I believe thousands of cases die unrecognized, and that it is far from being a rare disease. In this last year, I have seen twelve cases—seven in my own practice and five in consultation. When we realize what the prognosis is, I think you will agree with me that we can afford to give this disease our most careful study and attention. Like all other diseases, its symptoms are not always the same, but differ according to the virulence of the germ and the susceptibility and resisting power of the individual.

The most common symptoms are as follows: Languor, heaviness, irritability, anorexia, peevishness, thirst, restlessness, headache, pain in the epigastric region, uneasiness, and emesis. The general infection becoming more pronounced, we have fever, chills, sweats, anæmia with peculiar color, cold, death-like appearance, rapid wasting and prostration, with a weak, irregular, fluctuating pulse, and symptoms characteristic of the parts or organs most involved. At times there is a rose color pigmentation, herpes, epistaxis, hemorrhage from the bowels, general abdominal tympanites, dyspnoea, coma, stupor or insomnia, a grating assertive cry, enlargement of cervical and post-pharyngeal and mesenteric glands, suppurating in character, emphosotonus, episthotonus, suppurating arthritis, especially of the thigh and knee joints, and blebs, simulating blisters from scalding. To be more specific, we may have the above general symptoms and local disturbances as follows: Headache, general or local, enlargement of head, due to the affection of meninges, choroid infiltration, dilatation of pupils, conjunctivitis, rapid dilation and contraction of the *alæ narii*, scalp sores, alopecia,

dry tongue, and at times sordes, post-pharyngeal and cervical glandular enlargement, dyspnoea, small moist râles, slight expectoration, except from complications, breathing irregular, varying from 26 to 70 per minute, weak, feeble, easily excited heart, vomiting of food, serum or bile, pain in the epigastric region, tympanites, with general tenderness, constipation, rarely diarrhœa, incontinence, pain in lumbar region, hæmaturia, albuminuria, abscess in joints, hip and knee especially, with concomitant symptoms. Varieties of this disease have been named according to the symptoms present, such as typhoid, insidious acute febrile, meningeal, intermittent, and so on, but I have avoided these, as it confuses without adding anything to the diagnosis of the disease.

The fever, I believe, is characteristic of the disease. It is not influenced by drugs; is irregular, varying from normal to 105° in the course of a day; may be normal for several days, then infection starts anew, and we have a sudden rise to 102°, 106°, or to 107°; this may continue for several days or even weeks with slight remission, or it may return to normal in a few hours. It may return at intervals for a week, or even longer, but there is no guarantee that the said intervals will continue the same. The case may and does vary according to re-infection or multiplication of germs and the resisting and recuperating power of the individual, and life may be prolonged, but the disease ends fatally in from ten days to three months.

PATHOLOGY.

The organs most affected are the lungs, heart, liver, spleen, serous membranes, kidneys, eye, mesenteric glands, lymph glands in general, medulla of bones, thyroid gland, and bladder, all being infiltrated with small tubercles. These tubercles contain the tubercle bacilli, in more or less number. They usually present, in the centre, a cheesy mass, surrounded by epithelioid cells and giant cells, these in turn enclosed by lymphoid cells. The tubercle may be so small that the eye cannot detect it, or the small tubercles may coalesce and form large nodules. The tubercles are often so necrotic that they lose their shape, and no doubt are taken up by the circulation to help poison the system and cause increased irritation to the organs of the body, infecting the kidneys as well, making a fertile soil for infection to take place there. There is a real and apparent new formation of the connective tissue.

ETIOLOGY.

There is no question but that the bacillus

tuberculosis is the cause of the affection being introduced into the general circulation by inoculation from within or from external sources. From within by a breaking down of a tubercular zone, as in pleurisy, pneumonia, local abscess, tubercular in character, etc.; from without by infected food, air, or water, dirty manipulations or instruments, contact with a tubercular patient, especially after an exhausting disease, where ulcers or abrasions are on the surface or exist within the alimentary canal, as in typhoid fever and typho-malarial fever; the last I cannot too forcibly state and believe is responsible for cases of acute miliary tuberculosis, and should be strongly guarded against. A predisposing cause is undoubtedly an inherited condition of the tissue of the individual.

DIAGNOSIS.

Irregular fluctuation of fever, general constitutional involvement, rapid emaciation, peculiar color with cyanosis, rapid, feeble pulse, peevishness and restlessness, rapid dyspnoea not traceable to great lung involvement, no great expectoration, family and personal history, and exposure to contact, tympanites, choroidal infiltration, not influenced by drugs, but steadily growing worse, finally by microscopic test of the sputum and blood.

It is to be differentiated from typhoid fever, malarial, typhoid-malarial, and lung troubles.

In lung troubles, the absence of great râles, sputum in small amount, and symptoms characteristic of those affections render diagnosis more easy.

In malarial, typhoid fever and typho-malarial, it is difficult and often, at the beginning, impossible, yet it means so much to the person interested that we should use all means at hand to make a proper diagnosis. In simple malarial trouble, the great tests are quinine and examination of blood, regular periods of fever, and absence of grave constitutional disturbances or complications.

As to *typhoid fever*, we have the same symptoms at first, but we have no emesis and do have flushed face, subsultus tendinum, diarrhoea, steadier pulse, no marked dyspnoea, the typhoid spots, brown, dry, coated tongue, local ileo-cæcal tenderness, which, carefully considered with blood tests, makes its diagnosis more easily rendered. Widal's serum test.

In typhoid malarial fever we have the greatest problem. In each at the beginning we may have nose bleeding, headache, fever, sordes and herpes, dry tongue, tympanites and tenderness in the ileo-cæcal region, yellow fecal discharges, pain in back, etc. Three cases in one year came under my notice, which were diagnosed

typho-malarial fever and one malarial fever, which turned out to be acute miliary tuberculosis. Here, again, we have the different color of face, dyspnoea, greater prostration, and irregular, feeble pulse, varying temperature, family and personal history, and history of contact, non-influence to bath treatment, more rapid complications, and finally the examination of blood (hypodermic syringe into the spleen and in lumbar region, and examination of sputum).

In order to bring this more forcibly to our minds, permit me to report a case of *typhoid malarial fever*, followed by a case of *acute miliary tuberculosis*, due to hereditary condition or direct contagion from mother.

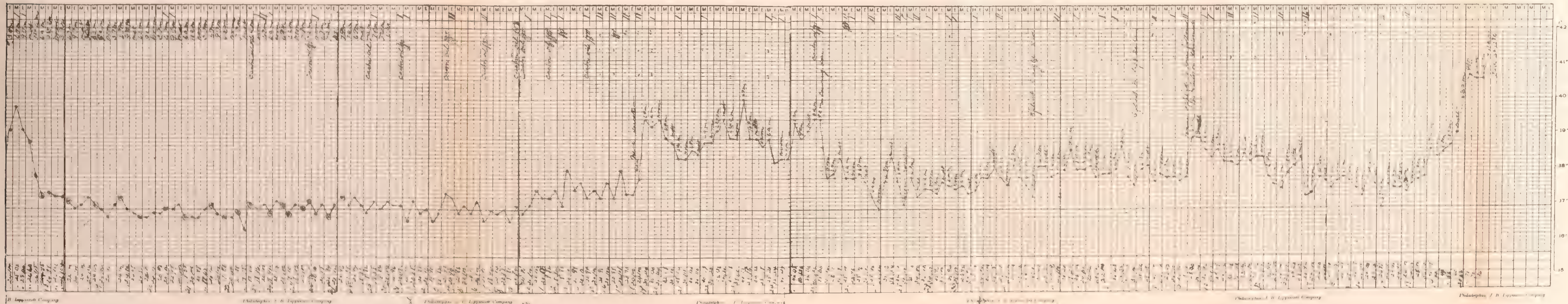
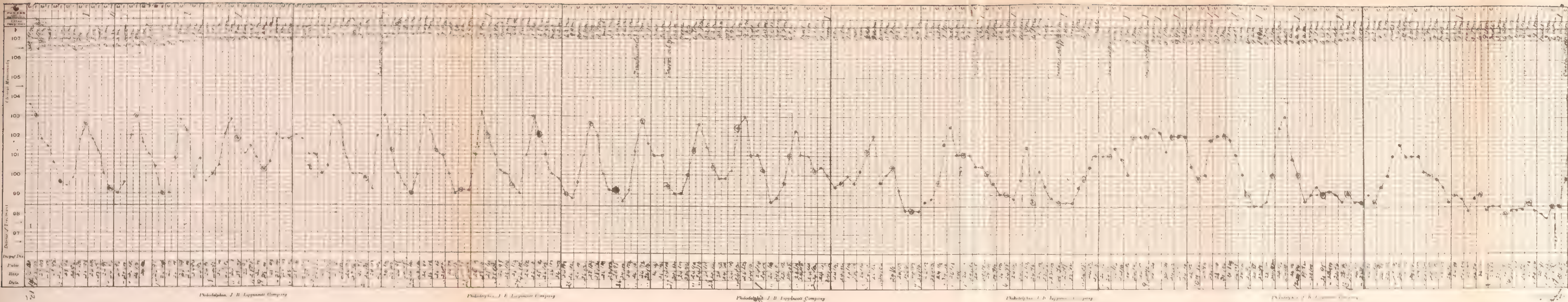
Female, white, age 8 years. Mother had phthisis pulmonalis, and it also exists or existed on mother's side of family; one sister died of scarlet fever; otherwise family history negative; personal history negative.

On *January 12th*, 1898, I was called to see the child. Her symptoms were as follows: Frontal headache, yellowish colored coated tongue, shortness of breath, vomiting bile and serum, diarrhoea, abdominal tenderness, difficulty in making water, scanty and high colored, burning during micturition, pulse 120, respiration 30, temperature 103°. These symptoms combined, with distinct remissions of same until the twenty-first day (February 2d), when symptoms disappeared and patient started on a course which seemed a fair one to recover.

This continued until *February 14th*, 1898 (twelve days), when symptoms returned with nose bleeding, followed by delirium, subsultus tendinum, and great tenderness in ileo-cæcal region. The pulse, respiration and temperature are here shown (by chart). From that day (*February 14th*) until she died, the distinct remissions of remittent fever are noted in conjunction with typhoid fever symptoms. The height of fever being, with one or more exceptions, at 3 P. M.; the remission greatest at or about 9 A. M. This condition lasted until March 4th, when character of temperature changed and gradually and fluctuatingly returned to normal on *March 14th*. This seemed the end of the typhoid malarial fever, and patient seemed to be very slowly recovering; only twice or so did she have any fever or disturbing symptoms, which lasted but a few hours, and soon subsided under a mild physic.

On *April 11th*, twenty-eight days after supposed convalescence had started, patient complained of fatigue, was irritable, restless, had vague pains, little fever, and desired to remain in bed.

This continued until *April 18th*, when emesis set in, complained of head bitterly, parotid



gland enlarged in left side, coated tongue (dark and dry), dyspnœa, pain in stomach, tympanites, slight constipation, anuria and dysuria, temperature, respiration and pulse rapidly arose. She rapidly passed into a condition of great prostration, face pale and lips cyanotic, symptoms of cerebro-spinal meningitis developed, post-pharyngeal enlargement became manifest, the case daily becoming more grave in spite of all treatment.

April 25th, signs of breaking down of parotid substance; we lanced it, and gave child considerable relief, the temperature, respiration and pulse falling, and never did become so high except just previous to death.

By *April 27th*, her head had greatly enlarged, had episthotonus, and profound exhaustion.

May 3d, right hip became affected.

May 7th, left hip.

May 9th, right knee joint.

May 15th, blebs appeared on feet and extensor side of forearms, and all tissues, lungs, heart, spleen, liver, mesenteric glands, kidneys and bladder seemed affected, and she gradually sank, with little remission, on May 16th, until her death, May 20th, 1898.

In spite of objections, her mother, a consumptive, nursed the case during supposed convalescence, and it is a grave question but that in this way the child was inoculated.

I base the statement of direct contact in this case from the prominence of abdominal symptoms, which is not so in the majority of cases, and also upon the early enlargement of the mesenteric glands in conjunction with the above history.

Now, in this case, at the beginning, we have practically the same symptoms. We have—

<i>Typhoid malaria.</i>	<i>Acute military tuberculosis.</i>
Fever,	Fever,
Nose bleeding,	Nose bleeding,
Sordes,	Sordes,
Headache,	Headache,
Yellow coated tongue,	Yellow coated tongue,
Dyspnœa,	Dyspnœa,
Rapid fluctuating pulse	Rapid fluctuating pulse,
Embarrassed heart,	Embarrassed heart,
Emesis,	Emesis,
Parotiditis,	Parotiditis,
Tympanites,	Tympanites,
Abdominal tenderness,	Abdominal tenderness,
General soreness,	General soreness,
Malaise,	Malaise,
Peevishness,	Peevishness,
Prostration,	Prostration,
Languor.	Languor.

So that the difficulty of diagnosis is readily seen; but here also the similarity ceases, and it is by the following characteristics that we distinguish and diagnose the cases:

<i>Typho-malarial fever.</i>	<i>Acute military tuberculosis.</i>
Distinct periodical remissions,	Not so,
Rather flushed face,	Very pale with cyanosis
Respiration from 20 to 28 per minute,	Respiration 30 to 42 to 76 per minute,
General average pulse 100,	General average pulse 110,
Fever does intermit or remit,	Not so, properly speaking,
Diarrhœa,	Constipation,
Not likely to have cerebro-spinal meningitis	Common,
Not likely to have joint disease,	Do have,
No blebs,	Blebs,
Subsultus tendinum,	Not so,
No tubercle bacilli.	Tubercle bacilli.

But I would especially refer you to the chart, as there it is written as my pen could never do.

PROGNOSIS.

Acute military tuberculosis is considered to be always fatal in from eleven days to three months. I believe it may last longer in insidious cases, and hope a great advancement in its study will result in at least a less number of cases, if not in some cures.

TREATMENT.

At present it is symptomatic according to the case. Cold to head in head complications, splints in joint disease, iodide of potassium and iron internally, cod liver oil bathing, and castor oil in capsules for constipation, bismuth sub-carb. for emesis, bromides for nervous disturbances, etc.

In some cases strychnia, arsenic and iron are undoubtedly indicated, but rarely quinine, as I think it mostly does injury by producing greater blood dyscrasia; eosot and geosot have entirely failed to improve the condition in any wise. Concentrated food, often repeated, should be emphatically ordered and enforced.

As before stated, acute military tuberculosis is not a rare disease. It means so much to diagnose such disease. If you determine a case not to be acute military tuberculosis, and it is, unwarranted hope fills the minds of the family, only to be harshly blasted, amidst the stings of reproach and lowered professional repute. Again, diagnose a case acute military tuberculosis and treat accordingly; if it be ty-

phoid fever, remit; typho-malarial fever, it often means a life lost to carelessness, ignorance or unfortunate judgment, when a finer study and corresponding treatment would restore the sufferer to health and bring comfort to a saddened home. A case in form is in mind where the last proposition came to my notice, which has served the more to have its impression on me.

In conclusion, let me make one suggestion: No case of infectious disease, or any disease, should be nursed by a consumptive. Let us eradicate all chances of an inoculation in this manner. This case reported opens up the question of contact, and may be the means of saving many from contracting this monster, this robber of our friends and little ones—"acute miliary tuberculosis."

THE IMPORTANCE OF HUTCHINSON'S TEETH IN DIAGNOSING HEREDITARY SYPHILIS—REPORT OF A CASE.*

By A. J. NELSON, M. D., Gaines' Mill, Va.

The language of the poet, "Age cannot wither her, nor custom stale her infinite variety," is surely true of this horrible and loathsome disease, which has been a curse to the human race for ages past, and is still making terrible ravages amongst soldiers and sailors of the present day; to say nothing of the fearful misery which it occasions in private life. This is a sufficient apology for directing your attention to the importance of Hutchinson's teeth as a means of making a diagnosis of hereditary syphilis in obscure cases.

In reporting this case, I shall not trespass upon your time to describe the various stages of syphilis, nor will I enter into the discussion of its etiology and pathology. I will confine myself to the history, diagnosis and treatment.

CASE.—On the evening of Nov. 25th, 1895, I was sent for in post-haste to see E. J., male, white, æt. 12 years, who, during the day, had had a severe chill that greatly alarmed his people.

The family history, as far as could be obtained at my first visit, resulted negatively, as nothing that would warrant any decided opinion as to the cause of the trouble could be elicited. It is true that the patient's father, a carpenter by trade, had, during his early manhood, accidentally "bruised" his leg, while at work,

below the knee, which resulted in a "sore" that did not at first yield to the usual home remedies, and two years elapsed before a permanent cicatrix marked the location of the accident.

The mother suffered at times with violent neuralgia of the head and eyes, and muscular rheumatism of the arms and shoulders. In 1892, she had a slight stroke of paralysis affecting her left arm, shoulder, and muscles of the face. All of her teeth had been extracted by the direction of the physician in charge, with the assurance that her neuralgic attacks would disappear, which had not been realized, as the attacks occurred with the same regularity and severity.

There are two girls in the family, ages 6 and 8 years respectively. They are perfect pictures of health.

E. J., the subject of this report, in 1890, while playing, fell against a piece of timber, striking his leg, anteriorly, midway between the knee and ankle-joint, making an ugly "bruise;" though not breaking the skin at the time, it soon ulcerated. Various remedies were used in the endeavor to cure the ulcer, but with no appreciable benefit.

The family becoming discouraged with their own efforts, and anxious as to the condition of the leg, consulted their family physician, who treated the boy for nearly twelve months. At the end of this period, the ulcer, which was comparatively small at the beginning, was now of considerable size and growing progressively worse. The parents of the child became alarmed at the seriousness of its condition. The doctor in charge recommended a practitioner who enjoyed a wide reputation for healing "old sores." Alas! after an application of his vaunted skill and remedies for several months, with results no more gratifying than those of his predecessor, he advised that the patient be taken to Richmond for treatment. The boy was under the care of a distinguished surgeon in Richmond for nearly three years, and during this time three separate operations were performed on his leg, curetting and removing pieces of bone.

For some months amputation of the diseased member had been advised by the surgeon, as the only confident expectation of a permanent cure, but the parents could not persuade themselves to sanction the operation, as the surgeon was not over-sanguine in prognosticating the result, owing to the debilitated condition of the patient.

At this time, Nov. 25th, the usual weekly visits to Richmond had been dispensed with for two weeks, the patient being physically un-

* Read before the Medical Society of Virginia, during its Twenty-ninth Annual Session, at Virginia Beach, August 30th, to September 1st, 1898.

able to endure the ride there and back. This necessitated the dressing of the leg by his father every third day, who used the usual antiseptic dressings.

The general appearance of the boy showed depression of the vital forces, anæmia, with a sallow, muddy complexion. There was some slight oedema of the face and lower extremities. His temperature was $102\frac{5}{10}^{\circ}$ F. Radial pulse, 120 beats to the minute. When the bandage was removed from the leg, a horrible suppurating, sloughing ulcer was exposed, extending from within two inches of the knee-joint to within three inches of the ankle, and all that portion of the leg below the knee, including the foot, was enormously swollen and cedematous. The bone was denuded of its periosteum (?), exposed in three places, and presented a sight of extreme loathsomeness. There was a sinus about the anterior middle of the leg, extending upwards and backwards into the muscles of the calf for four inches, discharging considerable pus, with shreds of decomposing tissue. There was no evidence of any chronic catarrh, ulceration of the throat, cicatrices of the mouth, or soft palate, nor interstitial keratitis. The teeth were defective, especially the two central upper incisors, which were small, stunted, with a decided tendency to approach each other. The cutting edge of the incisors was narrowed and notched centrally.

Diagnosis.—The absence of many points and peculiarities that are of unquestionable importance, when taken collectively, in making a diagnosis of inherent syphilis, did not discourage me in reasoning syphilitic taint as the primary cause of the trouble in this case.

The American Text-Book of Surgery, in summarizing the signs and symptoms of syphilis, expressly and emphatically asserts, in two separate paragraphs, that Hutchinson's teeth are *pathognomonic* of hereditary syphilis.

It did not occur to me that my predecessors were faulty in their diagnosis, but it was one of those cases which, owing to the unhygienic surroundings, the specific treatment had been absolutely unavailing, that some idiosyncrasy existed that would not admit of the touchstone treatment being persistently and boldly administered; consequently, I refrained from encouraging the parents or predicting any material benefit from the treatment as outlined.

Treatment.—I considered the chill and fever due to the absorption into the blood of infected products from the diseased leg, and immediately thoroughly cleansed the ulcer, irrigating the sinus, using bichloride solution one to two thousand. The sinus was packed with

iodoform gauze, the ulcerated surface dusted over with iodoform, and the usual surgical dressings applied. This was repeated every day until fever subsided. Tonics, diuretics, diaphoretics, and a stimulating, nutritious diet constituted the treatment for a few days, when the diuretics and diaphoretics were withdrawn and iodide of potassium was prescribed, beginning with fifteen grains three times daily, increasing one grain each day until the patient was taking ninety grains daily.

The effect was magical. In three months the boy had discarded his crutches, which had been his constant companions for three years. In six months, instead of being a great care and burden to his parents, he was giving them substantial help on the farm in making a livelihood. The "old sore" had entirely healed, and only the cicatrix remained.

Four months after the beginning of the treatment, interstitial keratitis developed in the right eye, and later in the left, which was treated by that lamented and eminent physician, Dr. Charles M. Shields.

About this time, his pharynx and soft palate became involved, and, while the iodide was being pushed, the inflammation did not subside before the patient was deprived for life of a greater portion of his uvula.

During my attendance on the patient, I was requested to prescribe for the mother's neuralgic attacks, and although ten grains of the iodide of potassium (*t. i. d.*) produced pronounced iodism, she improved rapidly under its effects, when all other drugs had failed to give relief in the smallest degree.

In concluding the case, although it has been nearly two years since the treatment has been discontinued, and the patient showing no signs of the return of the disease, I do not claim that syphilis has ended or that it will ever end; but I wish to impress upon those of us who are not so well informed in diagnosing this protean type of disease, to make a thorough inquiry into the history of all ulcers of obscure origin as being possibly the result of syphilitic taint, and while all children with inherited syphilis may not have Hutchinson's teeth, many of them do, and to this sign too much importance cannot be attached.

ANCIENT FULL-TERM ECTOPIC PREGNANCY.

By J. WESLEY BOVEE, M. D., Washington, D. C.

The rarity of old cases of full-term ectopic pregnancy, together with a few interesting matters met with recently in a case of this kind, has led the writer to briefly call your attention to the variety of conditions included under this general heading.

Perhaps the best method of presenting the subject will be to recite the history of that case, which is as follows:

Mrs. J., white, 30 years old, and residing on the plantation, Wakefield, in Westmoreland county, Virginia, (historic as the birth place of General George Washington) was sent to my service, in Columbia Hospital, by Dr. William Washington, her family physician, in March, 1898. During her girlhood she did not enjoy good health. Her menses began at fourteen years, was irregular for the next few years, menstruating but two or three times annually, and later became quite regular for a few months, and then for a number of months at a time would notice its absence.

This irregular interruption of the flow for months has continued to the present. Living in a malarial region, she has suffered more or less from malarial poisoning all her life, and this, with measles and other slight diseases, has kept her in bed a great deal. All during her pre-marital menstruating life she was very much annoyed with leucorrhœa. She was married at eighteen, and three or four months later had an abortion, which was attributed by her physician to heavy lifting. Her health continued about the same, and twelve months later she was delivered of a female child after a short and easy labor. No physician was present. Previous to its birth her face, eyes, feet and genitals were swollen. There was nothing of note in her condition until about December, 1888, when she began to have severe pain in the left inguinal region and left hip. A "knot" appeared in this region and gradually increased in size; a little later fetal movements were felt, and she expected to be confined in August, 1889. August 1st, Dr. Washington wrote, "she was in labor, after having all the symptoms of pregnancy, and when I saw her, August 15th, 1889, a diagnosis of extra-uterine pregnancy was made and the patient advised to call a surgeon." The pains continued about three months, after which period they gradually became less, but occurring with relapses sufficient to keep her in bed.

Three years ago, she gave birth to a live child, and during this pregnancy seemed to suffer no more than previously, and the labor was short and much easier than the first, eight years before. During the following year, patient enjoyed better health than before, but at the end of that time had another relapse and "was just able to drag around." Her weakness increased, and two months ago she was obliged to remain in bed and was bed-ridden when admitted to the hospital. Two weeks ago, she experienced great pain in the rectum, and Dr. Washington removed therefrom the left parietal bone of a fetus, which she brought to the hospital. Has been obliged to take quite large doses of morphia at regular intervals during the past few months, and is clearly a victim of it. She is greatly emaciated, suffers constant pain, and is extremely sensitive to pressure in the left iliac region.

An examination reveals the presence of a tumor in the left side of the abdomen, extending from vagina to spleen, and firmly fixed. A finger in the vagina elicits a sense of crepitation in the mass so easily felt in the left broad ligament, slightly in front, which is thought to be a fetal skull.

March 10, 1898, operation. The vaginal route for removal was rejected, unless an abdominal exploration determined it to be the preferable one. When the abdomen was opened the dense mass was found to be lying behind the peritoneum, and an attempt to reach it by an incision through the extra-peritoneal structures in the flank was made and abandoned, as too much dissection seemed necessary and the liability to open the peritoneal cavity too great. An attempt to stitch the peritoneum covering the sac to the edges of the abdominal incision was met with failure, and we decided to pack gauze about the abdominal incision and all about the point in the sac wall elected for its opening. The sac was then incised, and from it, after long tedious efforts, the skeleton of a fetus, one or two bones at a time, was detached and removed with a considerable quantity of fecal matter. No other parts of a fetus was found and no evidence whatever of a placenta was detected. The head was found near the spleen, and the relation of the bones with the wall of the sac rendered great care necessary to prevent puncturing the peritoneum. The skin and peritoneum of the edges of the abdominal incision were united with running catgut suture, and the edges of the sac wall were, in turn, stitched to the edges of the abdominal opening. It was now irrigated and packed with iodoform gauze around a rubber drainage tube. Two

quarts of physiological salt solution was run into the abdominal cavity to be absorbed. The opening (or openings) between sac and bowel was not found or searched for, and, as expected, the bowel movements came through the opening of the sac for nearly two weeks, after which time it began to come through the anus and the fistula to close. "Scarcely any fecal matter comes through the opening, but quite a little pus" is noted on her history chart for April 1st. April 10, is gaining rapidly, taking on flesh and color, and walks about the ward free of pain, although she has had no form of opium since the operation. She left the hospital for her home in May in better health than during the previous eight or nine years.

Extra-uterine pregnancy was not well known until the publication, in 1836, of Dezeimeris' classification, and remained a very vague subject up to the appearance, in 1876, of the classical work of John S. Parry, of Philadelphia. After these came Tait's house-cleaning work of the pathology of this condition. This form of pregnancy had been occasionally noted, however, for nine hundred years. Many writers refer to Albucasis⁽¹⁾ as being the first to clearly report a case of ectopic pregnancy. He was an Arabian physician living in Spain, where about the middle of the eleventh century he saw parts of a fetus escaping through the abdominal wall of a woman by the process of supuration. During the sixteenth century, Platerus⁽²⁾, Horstius⁽³⁾, Polinus⁽⁴⁾, and Primerose⁽⁵⁾ reported cases fairly well authenticated. Those of Nufer⁽⁶⁾ and Christopher Bain⁽⁷⁾, both classical and overlooked by many historical writers on this subject, occurred about this time. It is probable that Jacob Nufer did the first abdominal section for extra-uterine pregnancy, though his operation is considered as the classical first case of Caesarian section on living woman. The report of it appears in the collection of Casper Bauhin, and is recorded in Von Siebold's History of Obstetrics⁽⁸⁾ as follows:

"According to the relation of Casper Bauhin, in his appendix to the Latin translation of Fr. Rousset's writings upon Caesarian section, Jacob Nufer, a swine-slayer, at Sigerhausen, in Switzerland, in the year 1500, delivered his own wife by opening the abdomen, and the operation proved successful for both mother and child. The woman was pregnant for the first time, and when labor came on and she had already suffered severely for several days, there had gradually assembled at her bedside thirteen midwives and several lithotomists. But all of them together were unable to relieve

the poor woman of her child or to mitigate her suffering. Thereupon, the husband of the woman proposed to resort to the last means of saving her, and assured her that if she would take his advice he hoped, by the blessing of God, to bring the case to a successful issue. She gave her full consent, and Nufer persisted further in having the permission of the magistrate to his attempt. This, after some reluctance, was eventually obtained. Nufer next asked those of the midwives who had sufficient nerve for it to assist him in the delivery of his wife, while the more timid ones were requested to leave the room. Eleven of them chose the latter course, while two of them and all of the lithotomists remained to assist. The husband first besought the help of the Almighty, then closed the door, laid his wife upon a table and made an incision in her abdomen in the same way he was accustomed with the swine. He opened the abdomen so cleverly at the first incision that the child was safely extracted. When the eleven midwives outside the door heard the baby cry they desired admission, but this was refused until the baby was washed and the wound closed as in the swine. It healed rapidly. She was later confined four times and bore twins. The child delivered by the operation lived seventy-seven years."

Forty years later, according to Donatus, Bain's abdominal operation was deliberately done for the removal of a long-retained fetus. It is described as follows:

"In April, 1540, at Castrum Pomponii, commonly called Pomponischi, in the Province of the Lords of Gonzaga, not far from the river Po, there lived a woman whose name was Lodovica; but from her great size termed La Cavalla. She had been pregnant and the fetus had died in the uterus, while the soft parts had sloughed through the vulva and the bony portions had been retained within her. She recovered and again became pregnant, followed by a rapid loss of flesh, and was reduced to a condition of great danger. Christopher Bain, a travelling surgeon, happened by and offered to attempt to restore her for ten golden pieces if successful, and her body if she died. She and her relatives were very poor, and most of the money was raised by their good neighbors. The woman was tied up; he slowly cut through the abdominal wall, including the peritoneum, and at last opened the uterus and extracted the skeleton of a male child; he washed out the uterus with some warm wine and aromatics, and after cauterizing the edges of the wound, closed it with a suture. She recovered and in a short time had other children

born in good condition. Later she had four in all. Witnesses: Dominus John Baptist Zorzonus, and Alexander Begher, Dominus Frederick de Filini, and Dominus Leonellus Zorzonus, and Antonius Maiochus or Mazzuchinus, and several others, present at the whole operation."

This operation was probably for an ectopic gestation, and was done fifty-four years before that of Primerose. About this time Platerus did his operation successfully (1594). In 1604, according to Webster (¹⁰), the first case of tubal pregnancy was reported by Riolanus, the younger, and the same author regards the first case of ovarian pregnancy reported to be that of Mercurus, in 1614. But of abdominal pregnancy the first good account is by Josephi (⁹), in 1784, and the first clear description of interstitial pregnancy was by Dionis (⁶), in 1718. To Madame Lefort belongs the credit of having first reported clearly, in the eighteenth century, a case of developed ovum between the layers of the broad ligament, a condition that in 1836 was called by Dezeimeris "Subperitoneo pelvic" pregnancy. Lawson Tait's investigations led to the determination that practically all cases of extra-uterine pregnancy are originally tubal, becoming other varieties, often, by escaping from the tube. His views on this subject are generally accepted by the profession.

It is interesting to note that most early writers considered the fœtus had escaped from the uterus, and gave histories of injuries at some date during the pregnancy that had caused much extrusion. Altogether, the study of these early cases is very enchanting.

The longest period we found mentioned during which a fœtus had been retained in the abdomen of its mother was 57 years (Nebel (¹¹)). Sappey (¹²) reported one of 56 years, and we found nine others of more than fifty years; six between forty and fifty years; ten between thirty and forty years, and forty-three between eight and thirty years, besides a considerable number in which autopsies on aged women revealed the presence of dead fœtuses in various stages of decomposition, and without histories of such pregnancies.

Disposal of Fœtus.—The condition of the fœtus in ancient ectopic pregnancy is variable, being apparently but slightly dependent on the time it has existed. Bayle (⁷) removed post-mortem from a woman's belly a fœtus in good state of preservation that had been there 26 years, and Watkins (¹³) one 44 years old that was loose in the abdomen and perfectly well developed and preserved. Per contra, many cases

are found in which trouble is caused by putrefaction, septic infection, sloughing into hollow viscera, or other depressing condition, within a very short time after the death of the fœtus.

It would seem that the duration of retention of an extra-uterine fetus of advanced development depends largely upon whether the conception product becomes infected. The limit of time during which these fetal cysts may remain in the abdomen unmolested has not been determined, inasmuch as in a number of the very oldest cases death was due to some entirely irrelevant cause. In about 76 per cent. of cases (Charpentier⁸) infection occurs, and nature attempts to eliminate the foreign material and is oftentimes successful, although in a large majority of them, if unaided by surgery, the women die of exhaustion as a result of pain, long profuse discharges, or sepsis. In the remainder, about 20 per cent., the fetus remains either in a fair state of preservation or changed by fatty degeneration, absorption of soft parts, calcification of the sac wall, or other metamorphosis. A true lithopædion of the fetus does not form. Elimination, when attempted, is in about half the cases into some portion of the bowel, nearly as often through the abdominal wall at some point, far less frequently through bladder or vagina, and in one case (²⁰) through the perineum.

Location of Fœtus.—Various authorities have insisted that nearly all cases of full term ectopic gestation are intra-peritoneal. This is not readily reconciled with the preponderance of evidence going to prove that absorption of a young ovum placed in the peritoneal cavity progresses rapidly. Taylor (¹⁷) and Webster agree that abdominal or intra-peritoneal gestation is uniformly fatal (unless removed by abdominal section), primarily by hemorrhage, secondarily by suppuration of the sac and peritonitis. Of course, the amount of hemorrhage may be so slight as to cause no alarm, and is usually least when rupture is near the fimbriæ. Again, the fœtus may escape in its unruptured membranes into the peritoneal cavity, the placenta preserving its attachment to the inner surface of the tube. Webster, Taylor and others have recently published views directly antagonistic to this belief, and the author believes that while it is possible to retain a fœtus sufficiently long in the Fallopian tube for its arrival at such a stage of development that when suddenly expelled into the peritoneal cavity it will resist absorption, and that intra-peritoneal pregnancy may occur without passing through the broad ligament, but that practically all full-term ectopic gestations are, or have been,

broad ligament pregnancies. Either the pregnancy develops and remains extra-peritoneal, bulging either the anterior or the posterior fold of the broad ligament, or has finally ruptured through the peritoneum into its cavity. The case herein reported, and one we previously recorded (⁶), were unquestionably extra-peritoneal. Dunning's (⁷) interesting case was of this variety, and many of those reported during the past few centuries were clearly proven to be of this type. It is probable those old cases that opened into the bladder, vagina, or perineum, or into the bowel, as did the one herein detailed, are of this variety, and even some of those opening through the lower part of the abdominal wall may have dissected up the anterior layer of the peritoneum, and here escaped without ever having invaded the peritoneal cavity.

Pregnancy and Labor During Ectopic Pregnancy.—Another interesting feature of the case herein reported is that while in possession of the old ectopic gestation the woman again became pregnant, and was delivered of a living child after a very easy labor. This interesting condition has occurred in at least quite a large percentage of cases we have studied, and even in a few instances two different ectopic pregnancies have been found at the operation or autopsy. These were usually of different stages of development, being either of the same date, and one becoming blighted first, or altogether different as to age.

Treatment.—Parry and others of the early writers on the subject of full-term ectopic pregnancy have been opposed to surgical assistance except when the life of the woman was clearly in immediate danger. But that was before surgical invasion of the peritoneal cavity was so safe as it is now, and the views expressed have been gradually tending toward surgical relief as the routine treatment for this condition. The principal cause of death in abdominal section for these advanced cases is sepsis. It would seem that if the large majority are extra-peritoneal, many of them would not require celiotomy. However, if a trans-peritoneal operation be necessary, then treatment of the sac by stitching it to the abdominal wall before opening it, or when not possible, afterward, would be the most approved plan of procedure when the sac cannot be enucleated.

When much denudation of tissue in the pelvis results from cystotomy, then drainage through the vaginal roof will be advisable. Although the operation may be done thoroughly aseptic, if, in these greatly weakened

women, a space is left in which accumulation of fluids may exude, we must expect its infection before absorption of it occurs, and a considerable loss of life to result.

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ABSCESSES OF THE LIVER.*

By ED. E. FEILD, M. D., Norfolk, Va.

This title has been selected as embracing all those conditions of the liver in which pus is present, whether it be a primary abscess or one secondary to some other cause.

This paper will be limited to the *etiology, symptoms, diagnosis and treatment of such abscesses, and the history of a limited number of cases* introduced to illustrate the principles involved.

It is assumed that all present are thoroughly familiar with the anatomy and physiology of the liver; so reference will not be made to the structure or functions of the viscus, except as occasion may require.

The symptoms and treatment of abscess can be more readily appreciated when the underlying causes are understood.

The *causes of abscess* are, for the sake of con-

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venience, divided into two classes: (1) The predisposing, and (2) the exciting.

It can be readily seen that any condition tending to diminish the power of resistance of the liver substance to disease, may be classed as a predisposing cause of abscess.

Among the predisposing causes of abscess may be mentioned:

- (1) Alcoholism.
- (2) Residence in tropical climates.
- (3) Any abnormal condition of the parenchyma caused by—

Malaria.

Syphilis.

New growths.

Cardiac insufficiency.

Renal insufficiency.

Hyperamia of liver.

Anemia of liver.

Tuberculosis.

It is reasonably certain that syphilis and tuberculosis do not directly act as exciting causes of abscess; but the gummata of the former and the broken down nodular masses of the latter offer a suitable nidus for the development of any of the pus-forming germs which may be present in the systemic or portal circulation.

While some authorities claim that in abscess in infants, tuberculosis is the exciting cause, the above is the most rational explanation. It has also been pretty clearly demonstrated that malaria is only a predisposing cause, as the organism of Laveran causes degeneration of the hepatic cells, and has never been known, *per se*, to produce pus under any other circumstances.

Renal insufficiency from sclerosis causes an imperfect depuration of the blood, and a consequent increase of hepatic activity and hyperæmia, and cardiac lesions inducing congestion predispose to abscess. The effects of alcohol are too well known to need further comment.

Residence in hot climates is undoubtedly the most frequent predisposing cause of hepatic abscess. Europeans resident in India are often attacked with abscess through disregard of the hygienic rules of the tropics; although the disease is also prevalent among the natives.

Men seem to be more subject to the disease owing to their greater exposure to alcohol and syphilis, the proportion being about 30 to 1.

Among the *exciting causes of liver abscess* should be mentioned in the order of their relative frequency—

(1) Dysentery (mainly tropical dysentery), in which the *amœba coli* is generally present as a causative factor.

(2) Extension of inflammation from adjacent structures.

(3) Pylephlebitis.

(4) Phlebitis of the umbilical vein.

(5) Suppurating hydatids.

(6) Actinomycosis.

(7) Trauma.

(8) Suppuration of gall bladder.

(9) Typhoid ulcer.

(10) Tuberculosis.

Tropical dysentery seems to be far the most frequent cause of liver abscess. Manson says: There can be no question as to the existence of an intimate relationship between dysentery and liver abscess. Numerous and well-authenticated statistics, as well as every-day experience, attest this. In 3,680 dysentery autopsies, made in various tropical countries, and collated by Woodward, 779 (21 per cent.) revealed abscess of the liver. To quote recent Indian experience: According to the Annual Report of the Sanitary Commissioner with the Government of India for 1894, out of 465 European soldiers who died from dysentery in India during the period 1888-'94, 161 (35 per cent.) had, in addition to dysenteric lesions, abscess of the liver. Conversely, in Egypt, Kartulis, in an experience of over 500 cases of liver abscess, elicited a history of dysentery in from 55 to 60 per cent.; Zancarol, also in Egypt, in 444 cases, elicited a similar history in 59 per cent.; and Edwards and Waterman, in 699 collated cases, elicited a like history in 72.1 per cent. During the period 1870-'95, of 45 cases of liver abscess treated at the Seaman's Hospital, Greenwich, and collated by Mr. Johnson Smith, postmortem evidence, or a distinct history of dysentery was obtained in 38 (84.4 per cent.)

These figures are conclusive as to the existence of an intimate relationship between dysentery and liver abscess. There is good reason, however, for believing that, while they represent the truth, they do not represent the whole truth, and that the association is even more frequent than they indicate.

The question of the *amœba coli* being the organism producing dysentery as claimed by Councilman and LaFleur, Kartulis and others, and denied by Celli and Fioca, is not within the scope of this paper. Certain it is that in the large proportion of cases of liver abscess, the *amœba* can be demonstrated.

As illustrating the connection between dysentery and abscess of the liver, I will introduce the following case:

CASE I.—A. B., British sailor, aged 60; admitted to hospital —; had been sick four weeks with dysentery. Temperature ranged

from — to —. Dysenteric stools frequent. No symptoms referable to liver. A mass about the size of half an orange and slightly tender on pressure, was felt in right iliac region. Patient died four days after admission, and autopsy showed the liver studded with small abscesses which contained the amœba, and ulcerations throughout the colon. The mass in iliac region proved to be the right kidney. Unfortunately, the specimens were destroyed before they could be examined microscopically.

Symptoms.—Usually, when the patient comes under observation, the symptoms of hepatic abscess are weight and fullness in right hypochondrium, pain of variable intensity, but usually dull and aching, often referred to right shoulder. Tongue heavily coated, bowels usually move frequently, and stools may or may not be acholic as pressure from abscess may affect bile duct. There is usually insomnia (see Case II). Temperature is variable as in other cases of hectic, sometimes being sub-normal, and then suddenly rising to 104 to 105. The decubitus is right lateral or dorsal, usually with knees drawn up. Palpation shows enlargement of the liver, often extending as low as the umbilicus. The enlargement is by no means symmetrical, but extends in whatever direction the abscess is located. In case number two, liver extended downward nearly to the umbilicus, while in number three, it extended scarcely below the edge of the ribs. There is often tenderness on pressure or percussion over the liver. Respirations are shallow and more frequent than normal. Rigors are not uncommon, and patient often has night-sweats. Rapid emaciation is the rule. Complexion is generally muddy, and cachectic in appearance, but distinctly marked jaundice is rare. Spleen is rarely enlarged. A dry hacking cough, evidently a reflex from irritation of the diaphragm or from an inflamed condition of lung or pleura over the seat of abscess, is not unusual. Should the abscess discharge through the lung, the cough may be very severe, and sometimes causes vomiting. It should be borne in mind that hepatic abscess often closely simulates malaria, and where there is a doubt of the diagnosis, quinine should be withheld until the blood can be examined for the plasmodium. Manson thus emphasizes the similarity of the symptoms of the two diseases:

"Perhaps the most common error is to regard the hectic of liver abscess as attributable to malaria. The regularity with which the daily fever recurs, the daily chilliness or even rigor coming on about the same hour, the profuse sweating, and other circumstances so com-

patible with a diagnosis of malaria, all contribute to this mistake. So common is the error, that Osler says he hardly ever meets with a case of liver abscess which has not been drenched with quinine. My experience is the same. I have seen medical men make this mistake, not only in their patients, but in their own persons. If carefully considered, there are several circumstances which should obviate so serious an error.

(1) No uncomplicated ague resists quinine in full doses.

(2) In malaria, if the liver be enlarged, the spleen is still more so; the reverse is the case in liver abscess.

(3) The plasmodium cannot be found in the blood in non-malarial hepatitis.

(4) In liver abscess, the fever is almost invariably an evening one; in malaria, it most frequently comes on earlier in the day.

(5) Quotidian periodicity, contrary to what is the case with tertian or quartan periodicity, is by no means pathognomonic of nor peculiar to malaria.

(6) The almost invariable history of antecedent dysentery or, at least, of bowel complaint in liver abscess."

CASE II.—Michael Quinn, fireman of steamship; native of England; admitted January 31st, 1897; been sick fifteen days; pain in region of liver; insomnia, bowels torpid; temperature 98.6°; pulse 68; respiration 24. Had lost flesh and felt unwell for about a year; free drinker; gave history of syphilis. Physical examination showed a greatly enlarged liver extending from about the fourth rib anteriorly down as far as the umbilicus. The liver could be felt through the abdominal walls as a hard, more or less elastic mass, but there was no fluctuation. The lungs were normal; spleen negative; bowels somewhat constipated, and stools alcoholic. Respiration accelerated. Diagnosis of hypertrophic cirrhosis was made. Temperature rose next day to 100.4°. Podophyllin and sodium phosphate were given, and an application of nitro hydrochloric acid, one drachm to two pints, made to the region of the liver. For two or three weeks the treatment alternated between sodium phosphate and nitro-hydrochloric acid without any improvement of the symptoms. Finally slight fluctuation was felt just below the ribs, and an aspirating needle introduced. Pus was found, and an incision made two inches below and nearly parallel with ribs of the right side. Slight adhesions only were found, and the capsule was stitched to the wound and the abscess carefully opened. About four pints of pus, bile, and hydatids were

discharged, and, after careful exploration with the finger, a glass drainage tube was introduced, packed with iodoform gauze, and heavy dressing applied. The patient reacted well and made an excellent recovery. It is a noteworthy fact that the temperature of this patient rarely went above 99° and never exceeded 101.4°, and, after the operation, was persistently subnormal, at one time falling to 96°. I neglected to state that the wound was washed out each day with sterilized water. A prominent feature in this case was insomnia, which was partly due to pain.

CASE III.—Moosa Allo, Hindu sailor, age 35. Temperature on admittance, 100.4°; pulse 88; respiration 22. Tongue pale, broad, and covered with a heavy, white coat. Several copious, frothy, slate-colored stools daily.

Apathetic. Had been sick for two weeks. Temperature variable, the extremes being 96.2° and 103.4°. It was usually lower in the morning, but not infrequently the remission was in the afternoon. Diagnosis of atypical typhoid was made.

Widal's test was not practicable, and, on account of the dark color of the patient, it was impossible to verify or disprove the diagnosis through the evidence of petechial spots.

The liver was enlarged, but extended a very short distance below the ribs. Dulness extended from the fourth rib in front and fifth on the axillary line to point described. His feet and legs became oedematous, and pain increased.

An aspirating needle was introduced between ninth and tenth ribs, and showed pus. A distressing fit of coughing showed that the pleura had been punctured, and the operation did not clear up the diagnosis between empyema and hepatic abscess, although the pus looked like that from the liver. An incision was made, and about two and a half inches of the tenth rib resected. The pleura was found to be healthy, and the lung having been forced upwards by pressure, the outer and inner layers of the parietal pleura were stitched together. The needle still remaining *in situ*, the right leaflet of the diaphragm was opened and stitched to the capsule of the liver. There were no adhesions; an incision was made into the liver, and about three pints of chocolate-colored pus evacuated. Iodoform gauze was packed around the wound and a glass tube introduced. Practically the same treatment was adopted as in the preceding case. Patient improved for awhile, but succumbed in about two months to the constant suppuration, which was about a pint daily. As in case two, the temperature after the operation was always sub-

normal, and at one time fell as low as 94°. An autopsy was held, and the liver was seen to contain a cavity about as large as an orange, surrounded by healthy tissue. The right pleura was adherent and contained about a pint of pus. Right lung was compressed and small. Adhesions between liver and diaphragm were firm. There was no pus in abdominal cavity.

Treatment.—When the diagnosis of abscess has been satisfactorily made, the only rational treatment is to evacuate it as soon as practicable.

First. Ascertain a point of fluctuation, if possible, or even a probable point of suppuration, and introduce an aspirating needle under strict aseptic precautions. A rather large needle should be used, as liver pus is generally very thick, and will not pass through a fine needle. Push the needle deeply into the liver, pull back the piston, and if pus does not flow, withdraw the needle slowly, in order that any pus cavities which may have been traversed by the needle may drain into its lumen. Under no circumstances push the piston down during the removal of the needle, lest pus be forced into the peritoneum or pleura, (but maintain the vacuum).

If no pus is found, withdraw the needle until the point is near the walls, and, changing the direction of the needle, re-introduce, as in the previous manner.

This procedure can be repeated several times without danger, provided you are careful about your asepsis. This should be done under anaesthesia, as it is quite painful, and if the pleura is punctured, may give rise to unpleasant reflex symptoms. It is claimed by some writers that, even if no pus is found, this procedure will often relieve the existing symptoms.

Having located the abscess, leave the needle *in situ* and carefully dissect down until the peritoneum is reached. If the incision is below the costal line, and if adhesions to liver are satisfactory, open the liver and explore abscess with the finger, due regard being had for the adhesions. If there are no adhesions, and the case is not extremely urgent, pack the wound with iodoform gauze for forty-eight hours, or until adhesions are sufficiently strong to prevent infection of the peritoneum. If the case is urgent, suture the capsule of the liver to the edges of the wound before opening the abscess.

If the abscess is covered by the ribs, it will be necessary to resect about three inches of at least one rib, and after stitching together the right leaflet of the diaphragm, and the capsule of the liver, open the abscess, as in the preceding case. In either event, the hæmorrhage will be considerable, but can usually be pretty

easily controlled by packing around the tube, which should be of glass five-eighths of an inch in diameter, and fenestrated. After washing out the abscess with hot saline solution, or sterilized water, put on a heavy dressing and apply an abdominal binder. The after-treatment should consist in irrigation and dressing the wound at least once a day. In order to cause the tube to drain properly, it should be packed loosely with sterilized gauze for its capillary effect. Owing to contraction of the liver, after evacuation of the abscess, the direction of the tube will be changed so as to necessitate sometimes the use of a curved tube.

The bowels should be kept open. Tonics and a generous diet should be given to combat the large drain from suppuration. It is well to put the patient in a rolling-chair, as soon as possible after operation, and wheel him into the open air.

It is needless to say that every precaution should be used to prevent bed sores. Patient should recline on right side as much as possible, to facilitate drainage.

Analyses, Selections, etc.

Relation Between the Genito-Urinary Tract and Rectum in Operations Upon the Female which Should Receive Priority.

Dr. John L. Jelks (*Memphis Medical Monthly*, Vol. 18, No. 11), read before the Mississippi Valley Medical Association, at its last meeting in Nashville, a paper with the above title, the essential features of which may be given in the following summary:

The author finds sympathy between rectum and diseases of pelvic viscera to be of great importance. Cerebro-spinal and sympathetic nervous systems are intimately associated, communication being formed between sympathetic ganglia and cerebro-spinal nerves by both white and gray fibres. This relation is so intimate that they indeed "appear to be parts of one great whole." Sympathetic ganglia in pelvis, connected by interganglionic cords and communicating by other cords with the sacral ganglia and nerves, together with vast amount of peripheral innosulation, on account of intricacy we cannot fully comprehend.

More than usual importance should be given nerve supply of these parts. From pelvic plexus of sympathetic ganglia is supplied rectum, bladder, vesiculæ seminales, vas deferens, prostate, vagina and uterus, with sur-

rounding parts, muscles, skin and vessels. From cerebro-spinal, pudic alone supplies rectum, perineum, vagina, and external genitalia, including muscles and integuments. From even slight disorders of intestinal tract, severe reflex pain may be referred to perineum, urethra or ovaries. Chemical and germ poisons in the blood, by affecting the ganglionic centres or nerves, frequently cause severe pain in abdomen, as in other parts remote from point of inception of the poison. Continuation of the irritation or source of nerve disturbance leads to irreparable damage of neuron. The theory that first effect of irritation of sympathetic cord is a contraction of arterioles is doubtless true, but this is in time overcome, and the vaso dilator or inhibitory nerves gain control over the exhausting vaso constrictors. Dilatation of the vessels of the diseased organ, and finally those of its sympathizing contiguous organs, may result, this being due, in the author's opinion, to the atrophy, or some altered condition of sympathetic nerve, which supplies part involved, and by extension along its continuity to its ganglionic connection, and thence probably to other cords and ganglia. The fact of common and early involvement of rectum after a cervix and perineal laceration is not explained to author by mere contiguity of the parts, pressure of the sub-involved and displaced uterus, the relinquishment of muscular support, and *vis a tergo et frontæ* exerted upon the vessels of the pelvic floor, but by the continuity of their nerve supply and an associated changed position of the vessels, disfavoring the return of circulation from the entire or greater part of the pelvic floor and organs. The intimate vascular and nervous relationship between the rectum and other pelvic organs, especially the genito-urinary, is, from both an anatomical and clinical standpoint, so constant that the gynecologist, rectal surgeon, and genito-urinary surgeon, must need often to compare notes, and view, with an unselfish eye, the picture presented to either. The author believes that a gynecologist should be as well prepared to remove hemorrhoids, and treat an ulcerated rectum, as to dissect a cicatrix from the cervix and repair a perineum. A rectal surgeon must often find that, though the rectum is involved to such an extent as to be chiefly complained of, the chief source or danger is a pustule or diseased ovary, or, in another case, that to relieve his patient, and restore her to health and happiness, he must also dissect from the cervix uterine a cicatrix and repair a perineum; in still another case, he may be required, at the same time, to sever a

urethral stricture. Without an exception, cases applying for repair of cervix and perineum will also present some rectal ulceration which may overthrow her entire nervous system. Proper treatment of these cases should never be omitted. The author cites a case in which, while the rectal trouble had its beginning with and was a sequence of a changed relation of other pelvic organs and pathological conditions of uterus and pelvic floor, the rectal trouble had become one of the chief factors in the derangement of cerebro-spinal and vaso-motor mechanism that it became etiological factors.

The Arthritic Diathesis.

Dr. Bate, in a paper read before the Mississippi Valley Medical Association, October 13, 1898, entitled "The Arthritic Diathesis," said: "The term diathesis is applied to an inherited predisposition to altered nutrition. Nutrition consists of assimilation, reaction, or oxidation, and disassimilation or retrograde metamorphosis. Nutrition is controlled by the nervous system, and is modified by environment. Continuous subjection to modifications becomes apparent in the progeny of individuals as a pathological condition or diathesis."

He cited Bouchard's definition of constitution and temperament, which, either healthy or morbid, were transmissible, and considered diathesis morbid temperament.

He assumed in diathesis an inability on the part of the cells to produce oxidation. He said the diseases generally conceded as dependent upon the arthritic diathesis were acid dyscrasia, rickets, osteomalacia, obesity, lithiasis embracing biliary, renal and pancreatic; diabetes mellitus and insipidus; rheumatoid arthritis; articular and ab-articular rheumatism; gout in all its phases; the constitutional insanities, anæmia, eczema, neuralgia, migraine, arterio-capillary fibrosis; nasal, bronchial and cardiac asthma; hemorrhoids, biliousness, dyspepsia, paralysis, neurasthenia, hysteria, epilepsy, Reynaud's disease, albuminuria, and Bright's disease.

In other words, as has been taught for some time, diseases may be divided into two classes, those having an external or foreign cause, as the microbic diseases, and those having an internal or auto-cause, as those due to errors of metabolism. In the microbic type, the oxygen is extracted from the blood by the foreign sources; in the metabolic type, functional alteration or deficiency lessens oxygenation. Haig and Bouchard likewise strongly suggest that the action of drugs depends upon their power of increasing or diminishing this or that step of metabolism.

Various forms of auto-intoxication are paralleled by the reaction from certain alkaloids. He mentioned the acids occurring in the acid dyscrasia. In rachitis, the primitive blood change is believed to be an excess of lactic acid, which holds the phosphate of calcium, etc., in solution, thus preventing the formation of infantile bone.

Osteomalacia, on the other hand, occurs in the adult, and an excess of lactic acid dissolves the already formed bone.

Obesity seems directly dependent upon oxidation. In addition to fat formed directly from food, there is a certain amount formed during retrograde metamorphosis, both of the nitrogenous and albuminoid constituents of the tissues. Obesity occurs in the anæmic on account of the diminished blood current being insufficient to carry a normal amount of oxygen; likewise in the paralyzed, the nerve cells being deficient. Oxidation of emulsified fat is more difficult than of the saponified; consequently, arrest of the action of the pancreatic juice, by the too acid contents of the stomach being passed into the intestine, cause fat to be stored up.

Diabetes mellitus we find alternating with obesity and following osteomalacia, when the latter has received improved hygiene or increased oxidation.

In diabetes insipidus, probably the nervous system is first affected by retention of uric acid, since we have the disease following lead and alcohol poisoning and sudden refrigeration of the body, which things, Haig has shown, favor the precipitation of uric acid by raising the acidity of the blood. Dilatation of the capillaries of the kidneys may be the immediate result of mechanical obstruction in the form of the precipitated uric acid in the arterioles.

In biliary diatheses, the cholesterine becomes precipitated from the bile when the calcium salts unite with the organic acids to form insoluble salts.

Renal calculi result directly from the acids; uric acid being the most frequent form.

Pancreatic calculi are dependent upon the precipitation of the calcium salts from an acid medium.

Rheumatoid arthritis, according to Haig, is one stage of the same condition known as gout; he reported a post mortem at St. Bartholomew's Hospital, in which Sir Dyce Duckworth observed rheumatoid changes—that is, erosions without urates—and gouty changes or erosions, with a deposit of urates in the joints, in the same cadaver. In the rheumatoid joint, the urates had been dissolved out and eliminated in the urine prior to death.

Rheumatism, gout, and valvular disease of the heart are produced by the deposit of the urates in the tissues, which is caused by increased acidity of the blood.

Asthma, cephalalgia, epilepsy, arterio capillary fibrosis, and all other conditions, are dependent upon uric-acidemia, which causes "increased arterial tension and affects the interstitial circulation of the various organs and tissues."

In speaking of these diseases as dependent upon arthritis, it is not meant that no other causative factor exists or that these diseases may not be acquired, but that the essential condition corresponds to the "arthritic diathesis." Bouchard says: "The reaction of a disturbed nervous system, by corrupting for the moment nutrition, can produce morbid opportunity, and may modify nutrition in a lasting manner and develop an acquired diathesis. The acquired diathesis once established may become transmissible."

Horbackzewski has shown uric acid may be derived from nuclein. Haig believes a proportional amount of urea is also derived from nuclein, and the uric acid and urea are always formed in the system in the proportion of 1-35 or 1-40. If a less proportion of uric acid is eliminated, it indicates uric acid is being retained in the tissues. If a greater proportion is being eliminated, it indicates uric acid, previously stored up, is being dissolved out.

Since uric acid is so frequent a factor in disease, the treatment must embrace such measures as both free uric acid from the blood and from the system. In general, the treatment is dietetic, hygienic, and medicinal.

Haig says "the one thing needful is a proper diet," and restricts all red meats, coffee, tea and eggs. Breads, milk, vegetables, fruits, and nuts are permitted.

In rickets and osteomalacia, however, that food richest in phosphates should be selected—that is, eggs, fish, cracked wheat and oat meal.

Strawberries, tomatoes, bananas, and excessive saccharine materials are generally harmful in the uric acid diseases.

The hygienic treatment consists in out-door exercise, mountain-climbing, sea voyages, baths and massage to increase oxidation. Flannels should be used to prevent sudden refrigeration of the surface. A dry, warm climate should be selected.

The medicine should vary according to the individual type of the disorder. The salicyl group is best to eliminate uric acid from the system, the iodides remove it from the blood and lower arterial tension.

Hence the prognosis in such disorders as glycosuria, albuminuria, asthma, lithiases, and the arthropathies, when observed before morbid changes occur, is much better than the former uncertain results permitted.

Cells once destroyed are not replaceable, but, since by exercise, diet and the uric acid solvents, we can prevent the further destruction of cells, the disease may in many instances be arrested.

Good results from antilithæmic measures in the disorders of arthritis are reported by such observers as Lyman, Potter, Shoemaker, Wilcox, Olevé and Hunter, Bigelow, Satterthwaite, and many others too numerous to mention.

Personally, I have experienced favorable results from antilithæmic remedies in glycosuria, nasal and bronchial asthma, lithiasis, albuminuria, obesity, eczema, paresis, rheumatism, angina pectoris, recurrent typhlitis, vertigo, biliousness, dyspepsia, neuralgia, and migraine.

Behring's Patent Condemned.

The following are the resolutions adopted by the Medical Society of the Missouri Valley, held on September 15th, 1898, at Council Bluffs, Iowa:

Whereas prevailing conditions of patent and trade-mark laws enable any one to secure proprietary rights to chemical compositions, associated with or without trade marks, thereby inflicting an injustice upon the American people; and

Whereas, under our lax laws, Prof. Emil Behring and his agents have secured a patent on diphtheria antitoxin;

Resolved, That the Medical Society of the Missouri Valley expresses its unqualified condemnation of the course pursued by Prof. Emil Behring and the Farbwerke of Hoechts-on-the-Main, Germany, in securing a United States patent on Diphtheria Antitoxin, and that this society regards such action as a violation of professional ethics, as an injustice to the medical profession, and as an imposition upon the American public.

Resolved, That this society earnestly reprobates the prevailing laxity in our patent laws, which bestows upon foreigners special privileges, concessions and monopolies that they cannot secure in their native lands.

Resolved, That while it is the duty of our government to encourage invention, it is eminently unjust and contrary to public policy to grant a perpetual property in a trade-mark name, and to accord patents on the chemical composition of medicinal substances, thus preventing their manufacture by other processes, or their sale under different names.

Resolved, That copies of these resolutions be transmitted to the members of the commission appointed by President McKinley, for the revision of the United States Patent and Trade-mark Laws—namely, Mr. Francis Forbes, of New York city, Hon. Arthur P. Greeley, Assistant Commissioner of Patents, Washington, D. C., and Hon. Peter Grosscup, Chicago, Ill.

Resolved, That we commend the action of the American manufacturers of antitoxin, who have agreed to protect the profession in the use of their serum, and recommend use of the American product in preference to Behring's.

Book Notices.

King's American Dispensatory. New edition. Entirely Re-written and Enlarged by HARVEY W. FELTER, M. D., Adjunct Professor of Chemistry in Eclectic Medical Institute, Cincinnati; President Ohio State Eclectic Medical Association, etc., etc.; and JOHN URI LLOYD, Ph. M., Professor of Chemistry and Pharmacy, Eclectic Medical Institute, Cincinnati; formerly Professor of Pharmacy in the Cincinnati College of Pharmacy; Ex-President of the American Pharmaceutical Association, etc., etc. Two Volume Edition, Royal octavo, each volume containing over 950 Pp. with complete Indexes. Cloth, \$4.50 per volume post paid. Sheep, \$5.00 per volume post-paid. VOLUME I, now ready. The Ohio Valley Co., Publishers, Cincinnati, O.

We have been greatly interested in the examination of this National *Eclectic Dispensatory*. It is to the eclectic school what the U. S. Dispensatory is to the regular profession. Dispensatories cannot be leaders of medical thought or advice. They are rather the recorders of experiences with the drugs or medicines; they therefore are works of compilation. And after examination of various chapters or sections of the work before us, we are led to advise the purchase of the book by practitioners in general—regardless of creed or sect. It gives the uses of many drugs not noted in the U. S. P. Such a work, in a library with the National or U. S. Dispensatory, practically gives all available information regarding therapeutic agents in general practice. Of course such a book cannot be reviewed in a book-notice space; but each of the several chapters examined proves the work to be of common utility to druggists and doctors. The second volume is promised for early issue—being now nearly ready to go into the hands of the binder. Vol. I includes all therapeutic agents used in the Eclectic school whose technicality can be indexed in the initial letters A to K inclusive. There is nothing in the book—if the title page is not considered—that would

indicate to the general reader that the descriptions of drugs, etc., represent a special school of practice. In this, it is freed of all the shortcomings of homœopathic works.

Electricity in the Diagnosis and Treatment of Diseases of the Nose, Throat, and Ear. *With 161 Illustrations.* By W. SCHEPPEGRELL, A. M., M. D., Ex-Vice-President American Laryngological, Rhinological and Otolological Society; Late Assistant Surgeon to Eye, Ear, Nose and Throat Hospital, New Orleans, etc. G. P. Putnam's Sons, New York and London. 1898. 8vo. Pp. 403. Cloth, \$4.50. (For sale by Geo. M. West Co., Richmond.)

The first 80 pages are introductory—giving general principles of electricity, means of generating and applying galvanic currents, etc., arrangement of cells; rheostats, etc.; induced currents; illumination, etc. Several other chapters are taken up with such things as electrolysis, electro magnetic appliances, the X-rays, etc. All of the above chapters and others are of as much interest to general practitioners who use electricity, as to the specialist. All the rest of the book—in reality, about 250 pages—is devoted to the uses of electricity in the diagnosis and treatment of diseases of the nose, throat and ear, including also thyroid and other akin diseases. That too little is generally known about the uses of electricity in diseases in general has to be conceded; but this lack of familiarity with electricity in therapeutics grows chiefly out of the expense of outfits. There is no book on electricity in medicine that is plainer, more easily comprehensible, and more practically useful. We most heartily commend this book to any one studying to apply electricity in medicine.

Public Health Reports. *Issued by the SUPERVISING SURGEON-GENERAL, Marine Hospital Service.* Vol. XII. Nos. 1 to 53. *For the Year 1897.* Washington: Government Printing Office. 1898. Cloth. 8vo. Pp. 1441—xxxiv.

These *Reports*, formerly known as "Abstract of Sanitary Reports," are issued in weekly parts under the National Quarantine Act, 1878, and the Act of 1893, "granting additional quarantine powers, and imposing additional duties upon the Marine Hospital Service." These weekly parts for 1887 are now collected into one volume, which proves of constant use for reference when one wishes to collect data concerning infectious diseases of the world in 1897. Many important points referring to such diseases, to methods of hygiene, to quarantine work, etc., are scattered through the Annual Volume. We are greatly indebted to the Supervising Surgeon-General for the bound copy with which he has favored this journal.

Editorial.

Mississippi Valley Medical Association.

The annual meeting of this Society in Nashville, Tenn., closed October 14, after a very interesting session. The attendance, while not so large as usual, included many of the representative men of the central South, and papers were read by distinguished members of the profession from Chicago, New York, Cincinnati, St. Louis and Brooklyn. The address on medicine by Dr. Whittaker, of Cincinnati, was an able production and elicited universal commendation.

Through a resolution introduced by Dr. Arch. Dixon, this Society placed its condemnation upon the unethical and unprofessional conduct of Prof. Behring in taking advantage of the lax patent laws of the United States, and recommended that all members of the Association renounce the Behring serum.

The entertainments were of a high order, indicative of Southern hospitality. Dr. Duncan Eve, the Chairman of the Committee of Arrangements, fulfilled his duties to the eminent satisfaction of all, and his election to the Presidency was a fitting tribute to his untiring energies toward making the meeting a success. The Nominating Committee brought in the following report, which was unanimously adopted:

President—Dr. Duncan Eve, Nashville.

First Vice-President—Dr. A. J. Oschner, Chicago.

Second Vice-Pres.—Dr. J. C. Morfit, St. Louis.

Secretary—Dr. H. E. Tuley, Louisville.

Treasurer—Dr. Dudley Reynolds, Louisville.

Chairman Committee of Arrangements—Dr. Harold Moyer, Chicago.

Next meeting in Chicago.

Southern Surgical and Gynecological Association.

The Eleventh Annual Meeting of the Association, which was announced to be held in Memphis, Tenn., Tuesday, Wednesday, and Thursday, November 8th, 9th, and 10th, has been postponed till Tuesday, Wednesday, and Thursday, December 6th, 7th, and 8th, 1898, on account of the quarantine regulations in some parts of the South. The Gayoso House has been selected as headquarters for the Association. The following is a partial list of the papers to be read:

President's Address—Dr. Richard Douglas, Nashville, Tenn.

Gunshot Wounds—Dr. W. E. Parker, New Orleans, La.

Electro-Therapeutics in Medicine and Surgery—Dr. Jas. McF. Gaston, Atlanta, Ga.

The Normal Position of the Uterus Defined—Dr. A. H. Buckmaster, Charlottesville, Va.

Abdominal Opening for Intra Peritoneal Surgical Work—Dr. Jos. Price, Philadelphia, Pa.

The Choice of Material for Ligatures and Sutures in Gynecological Surgery—Dr. L. S. McMurry, Louisville, Ky.

Repair in Cases of Complete Tear of the Perineum—Dr. Howard A. Kelly, Baltimore, Md.

Conservative Treatment of the Diseased Ovary—Dr. Jos. Taber Johnson, Washington, D. C.

Thoracotomy for Tumors Involving the Ribs—Dr. F. W. Parham, New Orleans, La.

Use and Abuse of Normal Salt Solution—Dr. J. W. Bovée, Washington, D. C.

Report of Fifty Prostatectomies, with Remarks on the Treatment of Prostatic Overgrowth in the Aged—Dr. John P. Bryson, St. Louis, Mo.

Remarks on the Surgery of the Gall Bladder and Bile-Ducts—Dr. A. V. L. Brokaw, St. Louis.

Past and Present Surgery of the Gall Bladder and Bile-Ducts—Dr. Wm. H. Myers, Fort Wayne, Ind.

The Pelvic Floor—Its Functions, Injuries, and Repair—Dr. M. C. McGannon, Nashville, Tenn.

When Should We Operate for Appendicitis?—Dr. A. M. Cartledge, Louisville, Ky.

Ureteral Anastomosis—Dr. Geo. H. Noble, Atlanta, Ga.

Ovarian Cysts as a Complication of Pregnancy and Labor—Dr. J. W. Long, Salisbury, N. C.

Incised Wounds of the Larynx—Dr. Edwin Walker, Evansville, Ind.

Tubal Pregnancy—Primary Rupture Into the Broad Ligament, and Secondary Into the Peritoneum; Laparotomy, Convalescence Complicated by Septic Diarrhœa and Metastatic Abscess of the Liver—Dr. R. Matas, New Orleans, La.

Removal of Partially Descended, Infected, Strangulated Testicle, Complicated by Hernia—Dr. R. R. Kime, Atlanta, Ga.

The Diagnosis of Tubercular Peritonitis and Indications for Surgical Treatment—Dr. W. L. Robinson, Danville, Va.

Foreign Bodies in the Esophagus, with Report of Cases—Dr. A. Vander Veer, Albany, N. Y.

Penetrating Wounds of the Abdomen—Dr. Floyd W. McRae, Atlanta, Ga.

Management of Pregnancy Complicating Intra-Abdominal Tumors, with Cases—Dr. Rufus B. Hall, Cincinnati, O.

Rarity of Ovarian Tumors in Negresses—Dr. I. S. Stone, Washington, D. C.

Tumors of the Breast—Dr. W. F. Westmoreland, Atlanta, Ga.

Penetrating Wounds of the Chest—Dr. J. B. Murfree, Murfreesboro, Tenn.

Surgery of the Pelvic Organs Without Specu-

læ or Retractors—Dr. W. H. Wathen, Louisville, Ky.

Report of a Case of Splenectomy for Wandering Hypertrophied Spleen—Dr. Wyatt Heflin, Birmingham, Ala.

Celiotomy in the Treatment of Retroverted Pregnant Uterus when Incarcerated—Dr. Henry D. Fry, Washington, D. C.

Odds and Ends in Pelvic Surgery—Dr. Walter B. Dorsett, St. Louis, Mo.

Treatment of Pelvic Inflammation—Dr. Jas. A. Goggans, Alexander City, Ala.

Mechanical Aids in Intestinal Surgery—Dr. J. D. S. Davis, Birmingham, Ala.

History of Myomectomy—Dr. Chas. P. Noble, Philadelphia, Pa.

Observations Upon Cranial Operations, with Report of Cases—Dr. Wm. Perrin Nicolson, Atlanta, Ga.

Plastic Surgery in Gynecology—Dr. W. D. Haggard, Jr., Nashville, Tenn.

Ventro-Fixation for Retro-Displacements of the Uterus—Dr. R. J. Trippe, Chattanooga, Tenn.

Removal of Five-Gallon Ovarian Cyst from Girl Seventeen Years Old—Dr. R. R. Kime, Atlanta, Ga.

Transpleural Hepatotomy by Resection of the Rib and Free Incision—Recovery—Dr. R. Matas, New Orleans, La.

(Subject to be Announced)—Dr. W. S. Elkin, Atlanta, Ga.

Surgery of the Stomach—Dr. W. E. B. Davis, Birmingham, Ala.

Members of the medical profession are cordially invited to attend. Dr. R. B. Maury, of Memphis, is Chairman of the Committee of Arrangements; Dr. Richard Douglas, Nashville, Tenn., President; Dr. W. E. B. Davis, Birmingham, Ala., Secretary.

Dr. Clarkson's Poetical Works.

The *Manassas Journal*, Manassas, Va., announces the readiness for delivery of the Complete Poetical Works of Henry Mazyck Clarkson, A. M., M. D., of Haymarket, Va. The work includes "Evelyn," "Jim and Joe," "Men of Mecklenburg," and Lyrics. The handsomely bound volume of 150 pages will be sent to any address on receipt of \$1.00. Poetic critics, who have examined some of the writings of Dr. Clarkson, speak in the highest terms of praise of his poems. He has long been favorably known to the profession of this section—having filled many posts of honor with credit to himself and benefit to his associates. We trust his Poetical Works as now issued will meet with a liberal demand from the profession.

Mulford Company's New Price List.

We are in receipt of H. K. Mulford Company's new price-list of Pharmaceutic and Biologic products. It is thoroughly revised and enlarged to 228 pages by the addition of new and enlarged sections. The catalogue is attractive in style and a compendium of valuable information. Among other new and interesting additions we note a list of standard ointments, soluble elastic capsules and granular effervescent salts. The nomenclature of their diphtheria antitoxin has been materially changed, a fact which will be appreciated by the numerous friends of this product.

Obituary Record.

Dr. Hezekiah Gilbert Leigh

Died at his home, in Petersburg, Va., October 17, 1898. He was born in Mecklenburg county, Va., March 12, 1833. He was ill but a week with some cardiac trouble. After receiving the degree of A. M. from Randolph-Macon College, Va., in 1851, he served as Assistant Professor in this College for nearly three years. He then studied medicine at the University of Virginia and then at the New York Medical College, from which he received his medical degree in 1856. His next year was spent as Assistant Physician at the Randall Island Hospital. In 1858, he settled in Petersburg to practice medicine. He served as surgeon of a Louisiana regiment during the early part of the Confederate War, and in 1864 he became the surgeon in charge of the Confederate Hospital in Raleigh, N. C. He resumed practice in Petersburg after that war. In 1870, he became coroner of that city, which position he held until his death. He was connected with various business and educational interests of his city. He was a member of the Medical Society of Virginia since 1871, and has long been a member of the American Medical Association, as also of the Petersburg Medical Society. He leaves a widow and four children—one a physician (Dr. H. G. Leigh, Jr.), who practices in Petersburg. He was an active, earnest worker in Washington Street Methodist Episcopal Church, South.

While Dr. Leigh did not seek prominence by contributions to journals, etc., his eminence in the profession of his city and State is a matter of common agreement. Pronounced in his views and friendships, unswerving from the path he felt to be his duty to follow, he held the confidence and the esteem of all who knew him.

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Original Communications.

NOTES ON CONDITIONS RECENTLY EXISTING AT CAMP THOMAS, GA*.

By LEIGH H. FRENCH, M. D., Washington, D. C.,
Late Senior Major Third U. S. V. Cavalry.

There has been such a hue and cry raised over the alleged misconduct of the medical department during the late war—so much has been stated that is absolutely false, and so many unreasonable complaints published in the sensational press, that I wish to state that this paper is merely a collection of isolated facts concerning Camp Thomas, Ga., and the conditions existing there during the summer just past, together with some experiences of my own. It is in no way intended as a criticism upon any official or department, nor do I believe that sufficient time has yet elapsed to enable a dispassionate judgment to be formed.

This is not a military nation, in the sense that European nations are, and it is a far easier matter to gather together a great army than it is to make preparation for its proper care and sanitation. It takes longer to teach a man how to protect himself against disease, and to take necessary precautions for the maintenance of health, than it does to make a soldier of him. And when both men and officers are, in the main, equally ignorant of such things, it is a foregone conclusion that they will learn only by experience, that admonitions will pass unheeded, and that disease and death will be the direct and inevitable result.

It would be useless to deny that political influence has had to do with some appointments in the medical department. The urgency of the situation has been responsible for the acceptance of some men, with excellent credentials and recommendations, who have proved to be incompetent and irresponsible. It is, however, incontrovertible that such instances have been nothing like as frequent in the

medical department as in the staff and line appointments.

If any surgeons were remiss, it was not among those of the regular army; and, as a whole, the medical officers at Chickamauga were of high ability, and devoted their entire energy to their work.

The writer was commissioned Senior Major in the 3rd U. S. V. Cavalry, and reached Chickamauga in May, with four troops recruited in the Black Hills and in Nebraska. There were at that time about 40,000 men in the park, and regiments were pouring in constantly.

During the first few weeks we had in our regiment but one medical officer—an assistant surgeon. The man who was afterward appointed major and regimental surgeon was so neglectful of his duties and guilty of such gross misconduct during the time he served, that I preferred against him charges of drunkenness and unfitness for duty, whereupon he resigned. His place was never filled, and the writer, although an officer of the line, thereafter assumed the duties of a medical officer in so far as his other duties would permit.

I made the acquaintance of Col. Huidekoper in June. No regiment in the park had an ambulance, other than a few which had brought their own, although over one hundred extra ambulances were parked by the commissary department buildings. His plan was to keep a number of ambulances at the division hospitals, which could be sent for when needed.

It is unnecessary to point out the delay this occasioned, and the inconvenience of being without an ambulance on practice marches and at drills and parades, where accidents were frequent.

I was directed by our colonel to go to Col. Huidekoper, and did so, but we got no ambulance until he was ordered elsewhere. His objection, stated to me, was that he believed officers would use the ambulances as pleasure vehicles.

Dr. Huidekoper was supposed to be respon-

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, November 3, 1898.

sible for the plan of treating the sick at division rather than at regimental hospitals. I am not prepared to say whether it was the best plan or not—certainly a regimental hospital is preferable to a badly conducted division hospital, for in the former the patients would be near their friends and less apt to be neglected.

I have no doubt that you are all convinced that the so-called "immune" regiments were, and are, a farce, so far as any real immunity goes.

I came in contact with two such regiments, and had one, the 6th, so near by that I was able to satisfy myself that not one man of them had ever had yellow fever, nor was there any possible reason for giving them the peculiar name applied to them. Their percentage of sick was quite as great, if not greater, than the average, though they seemed to think it necessary to attempt to conceal the fact.

The soil of Chickamauga is of clay and not of a character to absorb, and a strata of limestone formation lies so near the surface that latrines could rarely be dug of proper depth.

Application was early made for lime, or any disinfectant, but this could not be had at all for some weeks, and only in ridiculously small quantities, until after Gen. Breckinridge assumed command.

No camps were moved until late in July, so that all ground was honeycombed with sinks and latrines, in many cases quite up to the kitchens. July saw more rainfall at Chickamauga than had ever been known; more or less of the contents of these sinks was diffused, and the appalling amount of sickness that then commenced may have been greatly due to this condition.

Our colonel made repeated applications for permission to move camp, basing such applications, not only on existing conditions, but, later, on the explicit recommendation of the Surgeon-General, in Circular No. 5, dated August 8th. During four months, however, we occupied but two camp sites—the second being only two or three hundred yards from the first.

I never saw any disinfection of stools, and hospital stools were frequently thrown into sinks. I one day heard that stools from a hospital of the 1st Illinois Cavalry, where there were numerous typhoid patients, were being emptied into one of my troop sinks, which was near the hospital. I at once wrote a note requesting that no more hospital fecal matter be dumped in our sinks, and received a prompt reply stating that their "fecal matter" would henceforth be otherwise disposed of.

Although all analyses and examinations of

water used at Chickamauga have failed, so far as I could find, to discover, in any instance, the bacilli of typhoid, it is inconceivable that they should not have been present, at least in some of the wells.

The surface of the park is rolling with a general slope toward Chickamauga Creek, and soldiers could not be prevented from drinking wherever cool water could be found. The principal water supply came from the creek, in pipes layed on the surface, exposed to the sun, and the water was so warm and muddy that it is not surprising that unthinking soldiers drank the more palatable well water.

Some of the milk sold in camp came from farms situated in Chickamauga Creek, and the Tennessee river, below the point where the drainage from the park was received.

Filters were distributed, but I never saw any in use except in some hospitals, nor were they adequate. There was nothing in which water could be boiled, nor any way in which to cool it afterward.

I believe that the principal cause for the great amount of sickness was the concentration of too many troops in one camp, and their detention too long in one locality.

I am not aware that the Surgeon General had anything to do with the selection of the various camps other than that at Montauk Point.

It is plain, however, that the cause for sickness must be sought in the camps, and that the fault must not be laid to their location. No camp has escaped, and troops which have never left their own Northern States have not been exempt.

The fact is generally admitted that troops which have been hastily raised and mobilized invariably pass through a period when typhoid is more or less prevalent among them.

Whether or not this is wholly preventable, in practice as well as in theory, still remains to be proved. During the first year or more of the civil war, typhoid was prevalent in the various camps, and the large number of cases then recorded would no doubt be greatly swelled if milder cases had not been called by various other names.

Many State regiments had floors in tents, cots, bath-houses, and other luxuries, which could hardly be expected by troops in the field, bought by State funds and private contribution.

Our own regiment received nothing except what the Government gave it beyond a contribution of \$50 sent by Mrs. Archibald Hopkins, of this city, from the Art Loan fund. This was

expended mainly for canned soups for the hospital.

In a recent conversation with a military surgeon, I referred to a hospital where the nurses were soldiers, who did such service very unwillingly. He promptly assured me that such must be accepted as competent nurses—for, as raw recruits must be accepted as soldiers before they have had sufficient training, so must a proportion of them do duty as nurses.

The trouble was, however, that when a captain received an order to assign so many men to this service, he took this as a means of weeding out privates who were not good soldiers. "Weak, sickly, ignorant, even criminal—all these were in the hospital service—but as there are not enough of this class in the American army, many good men had to be assigned."

There were, undoubtedly, many instances of neglect, but a greater part of the unnecessary suffering was due to unpreparedness incidental to the unprecedented speed with which so great an army was mobilized.

In most instances, the medical officers did the best they could.

I made notes of a number of cases of neglect, and of cases in which lack of necessities for the sick entailed suffering. Executive ability and common horse sense seemed lacking in many of the newly appointed surgeons, and I firmly believe that in every one of the cases I refer to, it was either criminal carelessness on the part of the individual surgeon, or a lack of enterprise, and not to be accounted for by a faulty system or by charging the medical department with the responsibility.

Some proof of this may be seen in the fact that while certain hospitals seemed to lack everything, others seemed to lack nothing.

One division hospital had, as late as July 17, no floor, no sheets or linen, no charts, and no intelligible record of cases or even deaths. Typhoid patients lay in the clothes they wore when they came in; everything was filthy; not one of the attendants could read a prescription; food was badly prepared and entirely inappropriate; ice and milk were to be had only in very small quantities, and the latter invariably soured in the afternoon.

At this time, there were innumerable well-conducted hospitals in the park, and I can see no reason for charging such individual instances of incompetence and neglect to the medical department.

Col. Huidekoper was surgeon-in chief of the corps to which the above hospital belonged, having been appointed to that position by the

President. On July 25th, he was transferred, Lt. Col. John Van R. Hoff succeeded him, and under Col. Hoff's direction a regular army surgeon, Maj. Brechimine, promptly remedied the above condition.

In July, the Red Cross Society established depots, from which were distributed enormous quantities of milk, ice, soups, delicacies, pajamas, linen, wines, bottled waters, cotton pads, medicines, and medical supplies.

Some of the surgeons whom I knew, then ceased to make requisitions through the regular channels, but wrote out a list of things needed, sent it to the nearest Red Cross depot, and got everything instantly. I have no reason to suppose that this was necessary, but it certainly was easier.

It is well known that England is constantly at war with some nation or other, and, as practice makes perfect, her army medical department has reached a high state of efficiency—one might almost say perfection. Nevertheless her armies in the field constantly receive aid from the Red Cross and other Societies. In the recent Soudan campaign, the National Aid Society's hospital steamer, "Mayflower," accompanied the Nile flotilla and rendered valuable aid.

The ranks were so terrorized by exaggerated stories of neglect and suffering, coming from division hospitals, that great numbers of men concealed their extreme illness and either went on duty or made some trifling excuse.

I have repeatedly had my attention called to men in quarters who had typhoidal symptoms, who showed great terror at being ordered to be transferred to a division hospital.

All talk of starvation is of course absolutely untrue. There was a period during which appropriate food could not be had for the sick. I suppose that the "starvation" talk had its origin in the stories of recovering typhoid patients, who were denied food that would have been injurious.

I think it no exaggeration to say that most of the food was badly prepared among all the volunteers. Everybody knows the danger from half-cooked beans, and yet they were almost invariably served so, and were a favorite dish. Meats were usually swimming in grease.

The Leiter Hospital was situated on the edge of the park, and was apparently perfect.

To it were sent many of the worst cases, and the rate of mortality was not high, considering that fact. Both there and at the model Sternberg Hospital, which was organized late in the season, nothing seemed lacking or left to be desired. In the latter hospital, the total admis-

sions to September 29th, were 1,023; deaths, 73—7 per cent. Of all cases, 70 per cent. were typhoid. Dr. Dock, in charge of the Bacteriological Laboratory, found the malarial plasmodium in only four or five cases.

The Widal's reaction was marked in all the cases pronounced typhoid and examined. Although it is impossible to give accurate statistics, the best information obtainable puts the number of typhoid cases at Chickamauga at about 5,000; of which number, about 400 died. Six thousand soldiers left the park on sick leave.

The comparatively low rate of mortality among officers, in the various camps, as well as at Chickamauga, as contrasted with that of the men, would seem to indicate that overcrowding, improper food, proximity to noisome latrines, lack of disinfectants, and a disregard of sanitary precautions, were the principal factors responsible for non recovery. The percentage of sickness among the officers was even greater than among the men, but they usually went to Chattanooga or Lookout Mountain on sick leave, and remained away until well.

It is believed that cases of typhoid were introduced by incoming regiments. The statement that typhoid existed among the farmers living near Chickamauga, at the time troops went there, made by Dr Sutton, is denied by Major Giffin and others, whose diligent search has failed to discover that any such cases had existed.

Certain it is that the erroneous diagnosis of many cases exposed great numbers to infection. During the first months, many cases, which were undoubtedly typhoid, were pronounced malarial, and the writer was among those who were guilty of such errors. The symptoms, in the earlier cases, were not pathognomonic, and facilities for making bacteriological examination were not then at hand.

There was, nevertheless, much malaria—how much I cannot say. Intermittent fever was very common, and crowds of jaundiced soldiers appeared regularly for quinine.

There is little doubt that the flies—the number of which was incredible—have played an important part in the spreading of infection; nor do I doubt that dried germs were blown about, so that no amount of care in eating and drinking, nor the most scrupulous cleanliness of food utensils, gives a guarantee of immunity in an infected camp or hospital. Of ten Red-cross nurses, at one time serving at the Leiter Hospital, six had typhoid, and one died.

It is easy to criticize, but not so easy to remedy conditions complained of.

There were instances of neglect in the care of the sick, and in the furnishing of necessities; but these stand out with undue prominence, while the care of and devotion to thousands who received every attention, and whose wants were all supplied, receives little comment.

Perhaps the principal factor in the inability of the Government to promptly furnish medical supplies, was the entire dependence of the medical department upon the quartermaster's department for providing and distributing such supplies. The railroad facilities between Chattanooga and Chickamauga were pitifully inadequate; passenger and freight traffic was enormous over the one-track road, and ordnance stores were invariably given precedence at a time when regiments were crying loudly for their equipment, and no one expected to remain long.

Men from the North were, naturally, unused to the climate, and that, together with an entire change of diet and mode of life, might be considered a factor in the sickness among them, if it were not for the fact that regiments from States further south than our camp, furnished more than their proportion of sick. Venereal diseases added largely to the sick list, but most of the statements on this subject, as on that of drunkenness, have been grossly exaggerated.

There was very little drinking, comparatively speaking; the men had their time too fully occupied with work to spend time in carousing.

The enteric disorders, which were so prevalent, were due to many causes; one of which, was the fact that the nights were cold, radiation great, and most of the men lay down in underclothing, still wet with perspiration. Their bodies became chilled, digestion stopped, and diarrhoea ensued from the fermentation of undigested food.

The fact that the continued ingestion of food, badly cooked and prepared, renders the intestinal tract particularly susceptible to the invasion of the typhoid bacilli, cannot be too strongly dwelt upon. I believe that most of the enteric disorders were due to this. With the knowledge of this in mind, and taking all other possible precautions, I, nevertheless, had constant diarrhoea during the last seven weeks of camp life, and could only control it by frequent and rather large doses of opium.

It is a somewhat startling fact, in view of the admonitions against the use of alcoholics, that men who drank whiskey regularly, were, for the most part, exempt from diarrhoea and

typhoid. Whether or not the alcohol acted as a germicide, one can only conjecture.

Malingers added largely to the sick list, toward the last. After the cessation of hostilities, there came a general order announcing that these regiments and individuals who did not desire to serve longer, would be at once mustered out! This caused no end of demoralization, added to which was the fact that just then a wave of hysterical sympathy for the soldiers swept over the country. Perfect discipline was at an end, malcontents aired their grievances in a manner they had never before dared, and the sick report increased enormously.

The regiment to which I belonged had an average age far above that of any State volunteers, and all the men were accustomed to the hardships incidental to life in the open. They were noted for their excellent discipline and good health, yet the following speaks for itself. In the days following the remarkable order I have referred to, our sick report almost doubled, and in a week we could not turn out more than forty men to a troop—our enlisted strength being eighty-one men to a troop.

Disorders and assaults became common throughout the park; drivers of carriages were beaten; their carriages broken up; hucksters were robbed of their wares, and theatres on the edges of the park were compelled to close. My own squadron was selected to do provost duty at night, and it was expected, as afterward happened, that there would be plenty of interesting work.

I issued the order for preparation, and its object became known. Imagine my surprise when I found that in no one of my four troops did less than seventy men report for duty!

The war has taught us many valuable lessons; some of which we already knew, but had partly forgotten. Let us hope that one outcome of the war will be the making of the army medical department absolutely independent—its chief the equal in rank of the chiefs of other departments, and a considerable increase in the number of regular army medical officers.

825 Vermont Avenue.

Micajah's Medical Uterine Wafers.

According to *Kansas City Medical Record*, have given great satisfaction—affording marked relief in cases of engorged cervix-uteri. In inflammatory conditions, they are highly beneficial, and decided improvement has been reported from their use in endometritis. The ease of application is also a great advantage. Address the manufacturers, Micajah & Co., Warren, Pa., for samples.

ICHTHYOL IN ERYSIPELAS, WITH REPORT OF A CASE.

By HUGH G. NICHOLSON, M. D., Paint Creek, W. Va.,
Superintendent and Surgeon in Charge Sheltering Arms Hospital; Local Surgeon C. & O. Railway.

I report the following case, not with any idea that my treatment has been original, but merely to add one to the many already treated in the same way.

RECORD 684—John D., white, aged 21 years, entered the Hospital at one o'clock P. M., October 5th. The previous night he had jumped from a moving freight train, landing in a pile of old scrap iron, and producing a compound comminuted fracture of both bones (tibia and fibula) of the left leg. At 2:30 P. M. on the same day, I amputated in the upper third, doing the operation both aseptically and antiseptically. At the time, I noticed about one inch above my stump a little wound which appeared to be merely through the skin.

The patient did not rally well from the operation, and suffered intense nausea for 48 hours. Knowing that the operation was perfectly clean, and as he complained of very little local pain, I did not look at the stump until the fourth day, when upon removal of the dressings I noticed some local redness in the region of the small wound previously mentioned, and upon removal of the drainage tube there was a slight discharge following it, which was apparently purulent in nature. Knowing that everything had been surgically clean, I then looked for a possible source of infection, and upon probing the small wound found it about one inch deep, and, to all appearances, a puncture by a nail. Although the redness was more general, it was not until the next day, with the appearance of blebs, that I suspected erysipelas. I then opened up the stump, washed it thoroughly with 1:1000 bichloride solution, and for three days kept that and his leg up to the gluteal fold enveloped in a moist 1:1000 bichloride dressing.

As redness had been continuously extending, I then decided to change my treatment. I continued the bichloride over the stump, but enveloped the entire upper part of the limb in 25 per cent. ichthyol ointment, and gave him ichthalbin (ichthyol albuminate) 15 grains *t. i. d.* before meals. The disease at once responded, and to-day, three weeks after admission and about ten days after the commencement of the ichthyol treatment, he is perfectly well of his complication.

His stump, which at one time looked almost as if invaded by moist gangrene, is now a clean,

granulating surface, and promises soon to be perfectly well.

I find that ichthyol in the form of the albuminate is perfectly acceptable to the stomach; and from the good and quick result attained, it seems that it is readily absorbed and must have aided materially in the rapid extermination of the poison. The patient is now in much better physical condition than when admitted, and the new chemical in this instance has certainly shown that it possesses valuable tonic in addition to its antiseptic properties.

DIAGNOSIS OF GONORRHOEA IN WOMEN.*

By JOS. RILUS EASTMAN, M. D., of Indianapolis, Ind.

There is no malady to which womankind is liable that should engage more consideration than gonorrhœa. Strewn in the train of its ubiquitous and wily germ are pathologic ravages of surpassing import in their clinical and moral consequences, yet hardly recognized or understood. Sinclair observed a decade ago a strange indifference toward differential diagnosis of gonorrhœa in the female, and even now, when in the light of recent bacteriology, it is easily possible to demonstrate the gonococcus in the act of pathologic mischief, there exists a notable, if not notorious, tendency on the part of most general practitioners, and some specialists, to disregard in doubtful cases discriminating diagnosis.

The diagnosis of acute gonorrhœa in women is comparatively easy, even without the microscope. What with a history of impure coitus, free purulent secretion from vulva, vagina and urethra; intertrigo, burning on micturition, and vesical tenesmus, the diagnosis is not far to seek. Upon inspection, one usually detects a discharge of tenacious pus, or greenish or yellowish streaks upon the linen may alone be in evidence. Erosion may be present upon the skin, upon the labia majora, or in the inguinal and gluteal folds. The labia minora, the clitoris and its prepuce, and the hymen, if present, are red and swollen. The meatus urinarius is found to be congested and ectopic, its normal pink color changed to a deep red. The mouths of the ducts of the Bartholinian vulvovaginal glands are deeper in color, gaping and tender. They discharge, instead of their normal glycerin-like secretion, pus laden mucus. A small area of mucosa immediately about

these openings exhibits a purplish red color. The surface of the vagina proper presents no great changes, the adult vaginal mucosa being practically uninfluenced by the presence of the gonococcus; not for the reason generally presented—namely, that the germ cannot exist upon flat epithelium—but more probably because (as Doederlein has pointed out) of an acid environment and the presence of the vaginal bacillus.

It is certain beyond cavil that the gonococcus can grow fat upon flat epithelium. Rosinski reported five cases of gonorrhœa of the mucous membrane of the mouth in the new born; and specific vaginitis in children is by no means rare. It occurs so often in plural instances among the children of the same household in Germany, that the term "glückliche familie" has obtained general currency as a technical expression of the craft. The so called "happy family" is one in which the father, mother and all the children are simultaneously ill with clap.

A comprehensive examination of the discharge is not complete until the secretions of the urethra, Skene's lacunæ, the glands of Bartholin, the vagina and cervix, have been searched through; and in chronic cases, several preparations should be made from each of these.

Before each act of removing discharge for examination, the vulva and the vestibule should be rinsed with warm, sterile water and dried with cotton pledgets. The secretion of the urethral mucosa—this being the germ's favorite habitat—is generally sought first. The universal method of securing it is by milking the tract with the finger in the vagina, stroking gently from the vesical opening to the orificum externum. If specific urethritis without discharge be present, nitrate of silver will generally bring the diplococci from the deeper layers. The urethra being emptied, any secretion present in Skene's glands may be evacuated by stroking with two fingers astraddle the urethra. The vulvo vaginal glands will evacuate their discharge if compressed between the thumb and forefinger.

To secure unmixed gonorrhœal pus from the cervix uteri, care should be taken that the platinum wire does not come into contact with the vagina or vulva. It is best to first rinse, and then dry the vagina with cotton to free it of mucus.

It is not to be assumed that because the bacteria are intracellular, that they are therefore gonococci; for it is certain that other diplococci than those of gonorrhœa lie within the

* Original Abstract of Paper read before the Mississippi Valley Medical Association held in Nashville, Tenn., October 10-14, 1898.

cell protoplasm. Moreover, the writer has seen preparations in which the unmistakable gonococci lay altogether without the cells. The most distinguishing characteristics of the gonococcus as stained by the Pick method, according to Broese and Schiller, are the deep blue color, the biscuit or coffee-bean form, and their superior size.

The gonococcus is an exceedingly large diplococcus, averaging one and one-half micromillimetres in length and three-fourths micromillimetres in breadth.

It will be concluded, after many examinations for gonococci, that the urethra is the predilection seat of gonorrhœa in women, and that the vulvitis and vaginitis are secondary, being caused by the bathing of these parts with the discharge from the urethra and cervix. Vaginitis and vulvitis are rarely seen in cleanly women, according to Bumm.

In many cases of endocervicitis, endometritis and salpingitis, gonorrhœa, clinical picture of gonorrhœa is complete, and yet the most skillful attempts to run down the gonococcus are futile. An adequate explanation of this paradox has been given us by Wasserman. He has shown that the gonococcus produces an active, specific poison. The poison is contained within the substance of the gonococcus itself. The poison remains active after the death of the germ. A very small amount of this poison, if injected under the skin, produces inflammation at the point of the application, fever, swelling of the neighboring lymphatic glands, and pain in the muscles and joints. Wasserman sought to find whether there is any immunity against this poison, with a negative result.

With these facts in mind, many dark places in the symptomatology of gonorrhœa become more clear. It is impossible to explain by this token, blenorrhagic rheumatism after the gonococci have entirely disappeared. Moreover, the peculiar symptomatology of chronic gonorrhœal inflammation of the female genital apparatus becomes clearer. Remembering that the gonococcus is aerobic, and does not multiply under exclusion of oxygen—on the other hand, very soon dies under this condition—the picture becomes still clearer.

The cocci may become encapsulated and cut off from the circulation in an old exudate and die off, but at their death and disintegration, the inflammation and fever producing poisons are set free. If they are absorbed, fever results; if they remain localized, the local inflammatory process continues, perhaps indefinitely, since the organism cannot immunize itself.

We have seen that the diagnosis of acute gonorrhœa may be made by contemplation of the clinical phenomena alone; for example, if acute urethritis be present, we are almost certain that the gonococcus is to blame. A few days' observation will establish the diagnosis beyond conjecture, since the symptoms of non-specific urethritis will disappear rapidly. In chronic gonorrhœa, however, too much dependence upon clinical manifestation is hazardous. Condylomata are often present, but appear also often independently of gonorrhœal Debris laden discharge from the vulvo-vagina. glands is usually an expression of old gonorrhœa, but other germs, as the staphylococcus aureus and saprophytic forms, may occasion just such discharge. Among the more common indications of chronic gonorrhœa are the maculæ gonorrhœicæ of Sanger, red papules about the openings of the vulvo vaginal glands, sclerotic inflammation of these glands, in which the glands are felt as hard, non sensitive nodules under the examining finger, cysts of these glands, and scars and erosions in the vulva. To these may be added the colpitis maculosa and granulosis. All of these conditions may be caused by other germs than gonococci. Here, as in acute gonorrhœa, the most reliable indication is the urethritis.

ONE HUNDRED ABDOMINAL SECTIONS.

By I. S. STONE, M. D., Washington, D. C.

An apology is offered the readers of the *Virginia Medical Semi-Monthly*, when, for the fifth time, the writer presents a series of "One Hundred Abdominal Sections." It is only because he believes the medical profession has the right to know a surgeon's results before considering him competent, that he has determined to report these cases.

Nearly all of these operations were performed at Columbia Hospital, or at my private hospital, in this city.

The present report shows a higher rate of mortality than the last, but still, is about what is considered by good authority,* a fairly good showing. In arranging the present list, the writer has not included exploratory operations where incisions were made for diagnostic purposes, or for merely opening an appendiceal abscess, etc.

* Mr. Tait, *Amer. Jour. Obstet.*, May, 1898.

In my first series.....	15	mortality.
" " second "	12	"
" " third "	7	"
" " fourth "	3	"
" " fifth "	6	"

This gives me, during three years, an average of 5.33 per cent. mortality.

Of the six deaths, three followed supra-vaginal hysterectomy. One of these died twelve, and another seventeen days after operation, from embolism. Both patients were thought to be convalescent. One of them had a very large tumor (weight about 18 pounds); was a most neglected case, and required one of the most difficult operations ever undertaken for the removal of a tumor. The patient died of shock, in forty-eight hours. These deaths were a great disappointment to me, although I can take some comfort in the fact, that recently, I had a series of twenty-eight consecutive successful results. I am also comforted by the reflection that these women were allowed to grow dangerously large tumors, through no fault of my own.

Lastly, I am glad to say my record is still unbroken in that no case has ever been lost where the tumor was merely a pelvic tumor, or that did not nearly or quite reach the umbilicus.

In the cases marked "Pus in the Pelvis," all cases were excluded which had merely results of sepsis, or infection. The "pus cases" required real surgery for their restoration to health. The cases of "Old Salpingitis," "Adhesions," etc., are not included in this list, but are classified with the next following.

The writer believes that the "Abdominal Method" will always be paramount in "Pus Surgery," when diseased organs are to be removed. The pendulum has already swung back from the *fad* of vaginal celiotomy. It is useless to compare vaginal puncture for pelvic abscess, with supra-vaginal or abdominal surgery. No surgeon should condescend to discuss such a question. But he is willing to compare notes and statistics with those who *extirpate diseased organs* by the lower or vaginal route. It would be interesting to have our friends, who remove pus sacs per vaginam, tell us how many times they have injured the bladder, or ureters, or how often hemorrhage has been difficult to control. Some of the best and most experienced of men are beginning to tell us of these cases, now let their followers and imitators do likewise.

The writer laments, as do all surgeons, the rarity of early cancer cases. In my years' experience, only one case has been found early

enough to hope for permanent cure by operation. Many others were treated by curette, cautery, or caustic applications, with the hope of prolonging life. In two cases, the writer has extirpated the uterus, adnexa, and pelvic glands, and those in Scarpa's triangle, hoping to check the disease. A modification of the Werder method was used in these cases, but results are not satisfactory and the disease is returning.

My thanks are due Dr. Mills, of Columbia Hospital, and Drs. Fleet Luckett and D. G. Lewis, who have assisted me in the compilation of this report, and for certifying to the accuracy of the list of cases.

SYNOPSIS OF CASES OPERATED UPON BY ABDOMINAL SECTION,
APRIL 14, 1887, TO MARCH 30, 1888.

DESCRIPTION.	Cases.	Deaths.
Pus Cases.....	28	1
Salpingitis. Retroversion of uterus. One tube or ovary removed in some cases, and frequently requiring ventro-suspension of uterus.....	18	
Ovarian tumors.....	8	3
Uterine myomata requiring S. V. Hysterectomy.....	11	1
Extra uterine pregnancy.....	4	
Tuberculosis of peritoneum (Tubercular Peritonitis).....	3	
Ventral Hernia.....	2	
Abdominal Myomectomy.....	2	1
Nephrectomy for large cystic tumor of kidney.....	1	
Intra-Ligamentary cysts.....	1	
Intestinal obstruction.....	1	
Appendicitis.....	1	
Fecal Fistula (Radical cure).....	1	
Oophorectomy for small fibroids of uterus.....	2	
Cholelithotomy.....	1	
Combined Abdominal and Vaginal Hysterectomy for Cancer.....	2	
Hernia (Inguinal).....	1	
Movable kidney.....	1	
Total.....	100	6

Sanmetto in Genito-Urinary Diseases.

Drs. Isaac Saalfeldt, Chicago, and J. L. Smith, Durand, Mich., speak in the most exalted terms of the value of this remedy in cases of prostatic hypertrophy, cystitis, pre-senility, in that peculiar condition existing in anæmic and chlorotic girls just entering womanhood, and abnormal conditions generally of the reproductive organs in either sex, depending on a debilitated condition of the general system. But it is especially in cases of senile prostatitis its value is most evident.

SURGICAL TREATMENT OF MORBID CONDITIONS INVOLVING THE BROAD LIGAMENTS.*

By AUGUSTUS P. CLARKE, A. M., M. D., Cambridge, Mass.

In operating on cysts or on morbid growths developing between the broad ligaments, it becomes necessary, in order to avoid injuring the ureter and some of the more important blood vessels, to exercise as much care as is required in cases of disease demanding hysterectomy.

In those cases in which numerous adhesions have occurred as the result of inflammatory or of other morbid processes, a loop of intestine may be found entangled in the mass; such cases always necessitate the employment of special precaution lest that in the course of extensive manipulation to free the parts undue violence result to important structures involved.

In those cases in which the cysts or growths are only partially intra-ligamentous, removal by enucleation can be effected more rapidly. The cavity or bed of the tumor should be obliterated by suturing its sides together; in cases of such a character, it will rarely be necessary to ligate previously the ovarian or other large arteries.

Drainage, as far as possible, should be dispensed with. Reliance should be placed on the scrupulous care taken in the management of the toilet of the peritoneum and on the aseptic condition of all materials and instruments employed in the operation.

Mention is made of the occurrence of hematoma and hematocele from rupture of the sac of tubal pregnancy within the structure of the broad ligament, and of the necessity of prompt surgical interference. When suppurative processes appear, or a lithopædion or other abnormal formation takes place within the broad ligaments, the employment of surgical measures should not be deferred.

Varicocele of the broad ligaments is also mentioned. Excision of the parts, including portions of the ligaments, with the tube and ovary, furnishes, in some cases, the only safe means for a permanent cure. Sarcomatous and other malignant neoplasms, involving, to any great extent, the ligamentous structures, are rarely overcome by extirpation, excision, or enucleation. Myomatous and fibro-myomatous formations, originating in those parts, de-

mand the early adoption of surgical procedures on account of the danger of such growths assuming a malignant transformation.

REVIEW OF THE PROGRESS, CARE, MAINTENANCE, ETC., OF THE INSANE IN VIRGINIA DURING THE YEARS 1887-1897. INCLUSIVE.*

By ROBERT J. PRESTON, M. A., M. D., Marion, Va.,

Superintendent Southwestern State Hospital, at Marion, Va.
Ex-President and Honorary Fellow of Medical Society of Virginia, etc.

Mr. President:—It has been my privilege, and at the same time my pleasure, occasionally to present before your honorable body some thoughts and suggestions pertaining to the interests and welfare of the insane; and feeling as I do an intense interest in everything connected with the care and maintenance of this large and ever-increasing class of afflicted and most dependent of all other classes upon public care and sympathy, I again crave your indulgence. I hope to present some few thoughts, suggestions, statistics, etc., which may elicit your thoughtful consideration and discussion. If we whose lives and energies are devoted to this specialty and are daily confronted with the needs, the difficulties, and trying responsibilities of the care of the insane, both in and outside the State Hospitals, can enlist the active interest and co-operation of all the medical profession along these lines, every needed reform and every step of progress will be more easily accomplished.

As has been so often inculcated, the physical, mental and moral health of the human race, from infancy to old age, is largely dependent upon the wise counsels, the direction and the teaching of the family physician. He it is that can counsel the avoidance and correction of all abnormal family and hereditary tendencies; he it is that can watch and direct the normal development of the child before, during and after birth along lines most favorable towards physical and mental perfection, and can, by skillful advice and faithful admonitions, guide the youth, the manhood and the womanhood of our land into the most perfect health and usefulness here; and, if he would follow the example of the Great Physician, can assure to them, as a consequence, the enjoyment of a fuller and more perfect life beyond.

*Original abstract of a paper read before the American Association of Obstetricians and Gynecologists at its Eleventh Annual Meeting, held at Pittsburg, Pa., September 20-22, 1898.

*Read before the Medical Society of Virginia at its Twenty-ninth Annual Session, at Virginia Beach, Va., August 30, 31 and September 1, 1898.

But despite all the service and devotion to the cause of humanity on the part of many noble heroes in the medical profession, brave and self-denying, often, as Hobson, in their efforts to obstruct the pathway of destruction, we still are confronted, in each generation, with an ever-increasing army of these dependent, degenerate and defective classes.

In all these cases of mental defect and derangement coming under the head of insanity, necessitating as they do for their own and the public safety, restraint or deprivation of personal liberty, it is the family or general practitioner that must for the most part decide the grave question of personal restraint and detention in a State hospital; he it is that must decide as to home or hospital treatment; he it is that can best know and point out the many and oftentimes obscure personal and hereditary defects and tendencies so necessary for the full elucidation of the history and for the proper treatment of the case.

With these preliminary and cursory remarks, I desire to review to some extent the progress, care, maintenance, etc., of the insane in Virginia from 1887 to 1897, inclusive, presenting such facts, statistics, etc., as may be deemed of interest both to the profession and to the public.

The Southwestern [Virginia] State Hospital, with which I am connected, was completed and opened for the reception of patients May 17, 1887, and it is for the period since that time to the present that I have been most intimately connected with this specialty and most carefully observant of the needs and requirements of the afflicted class.

The following statistical tables carefully prepared from the annual reports of the Virginia State Hospitals, and of the State Auditor, show the number of the insane in the State Hospitals at the beginning and ending of this period; and also the number of insane admitted, discharged and died in that time. I have also endeavored to show by carefully tabulated statements, the entire cost of the State of caring for the insane during this time—the cost in each State Hospital, and the cost of those outside.

These tables show the operations of the State Hospitals for eleven years. The entire insane population (in all State Hospitals) in ten years increased from 1,605, October, 1887, to 2,504, October, 1897, or nearly 62 per cent.

The insane white increased from 1,171, October, 1887, to 1,755, October, 1897, or about 49 per cent., while the colored insane increased from 434, October, 1887, to 849, October, 1897, or about 95 per cent.

TOTAL EXPENDITURES FOR THE INSANE (1887 TO 1897, INCLUSIVE).

	Southwestern Hospital.		Western Hospital.		Eastern Hospital.		Central Hospital.		For Outside Insane.	
	For Support	Bldgs., etc.	Support	Bldgs., etc.	Support	Bldgs., etc.	Support	Bldgs., etc.	Amts. Appro.	Amts. Spent.
1887	\$30,000 00	\$5,000	\$85,000	\$10,000	\$75,000	\$10,000	\$60,000	\$7,000	\$10,000	\$44,135 41
1888	\$30,000 00	\$5,000	\$85,000	\$10,000	\$75,000	\$10,000	\$60,000	\$7,000	\$10,000	\$44,135 41
1889	\$30,000 00	\$5,000	\$85,000	\$10,000	\$75,000	\$10,000	\$60,000	\$7,000	\$10,000	\$44,135 41
1890	\$30,000 00	\$5,000	\$85,000	\$10,000	\$75,000	\$10,000	\$60,000	\$7,000	\$10,000	\$44,135 41
1891	\$30,000 00	\$5,000	\$85,000	\$10,000	\$75,000	\$10,000	\$60,000	\$7,000	\$10,000	\$44,135 41
1892	\$30,000 00	\$5,000	\$85,000	\$10,000	\$75,000	\$10,000	\$60,000	\$7,000	\$10,000	\$44,135 41
1893	\$30,000 00	\$5,000	\$85,000	\$10,000	\$75,000	\$10,000	\$60,000	\$7,000	\$10,000	\$44,135 41
1894	\$30,000 00	\$5,000	\$85,000	\$10,000	\$75,000	\$10,000	\$60,000	\$7,000	\$10,000	\$44,135 41
1895	\$30,000 00	\$5,000	\$85,000	\$10,000	\$75,000	\$10,000	\$60,000	\$7,000	\$10,000	\$44,135 41
1896	\$30,000 00	\$5,000	\$85,000	\$10,000	\$75,000	\$10,000	\$60,000	\$7,000	\$10,000	\$44,135 41
1897	\$30,000 00	\$5,000	\$85,000	\$10,000	\$75,000	\$10,000	\$60,000	\$7,000	\$10,000	\$44,135 41
Total	\$473,163 44	\$114,000	\$1,093,500	\$31,250	\$815,000	\$25,000	\$556,500	\$56,500		
Cost.	\$402,163 44		\$1,070,750		\$843,000		\$896,500			
Per Cap.	\$350 79		\$468 03		\$594 50		\$369 82			
Per Cap.	\$148 27		\$125 83		\$139 58		\$95 86			

1887 to 1897—Total White in Insane Asylums, 5,015
 1887 to 1897—Total White and Colored in Insane Asylums, 7,439
 Cost, \$2,405,918 44
 " \$3,302,412 44
 " \$443 80

CENSUS OF THE INSANE, 1887 TO 1897, INCLUSIVE.

	Southwestern Hospital.		Western Hospital.		Eastern Hospital.		Central Hospital.		Total.	
	Admissions	Discharges	Admissions	Discharges	Admissions	Discharges	Admissions	Discharges	Admissions	Discharges
October 1, 1886	1,403	627	1,567	402	1,016	436	1,988	5974	1,403	627
Total Admissions 1887 to 1897	1,403	627	1,567	402	1,016	436	1,988	5974	1,403	627
Total Number Treated 1887 to 1897	1,403	627	1,567	402	1,016	436	1,988	5974	1,403	627
Total Discharges 1887 to 1897	881	890	2,194	470	1,418	439	2,424	7,439	881	890
Total Deaths 1887 to 1897	161	447	161	447	161	447	161	447	161	447
Remaining Sept. 30, 1897	361	857	361	857	361	857	361	857	361	857

The entire population of the State increased in ten years from 1,512,474 (census 1880) to 1,655,987 (census 1890), or about 9½ per cent.

This shows a remarkable increase of insanity over and above the ratio of increase of population.

It will be seen, also, from these tables, that 7,439 insane were cared for from October 1st, 1886, to October 1st, 1897, in all the State Hospitals at a total cost of \$3,302,402.44 for this entire period, or a per capita of \$443.80. Of this number 5,015 were white insane, and were cared for at a total cost of \$2,405,913.44, or a per capita of \$474.50. 1,988 colored insane were cared for at a total cost of \$896,500, or a per capita of \$369.82. The Southwestern State Hospital cared for 1,403 white insane during this period at a total cost of \$492,163.40, or a per capita of \$350.79.

It will be interesting to note from the above tables that during this period of review the State spent (Auditor's account) for the insane outside the State Hospitals (insane in jails, almshouses, with friends, etc.), and for lunacy commissions the enormous sum of \$321,817.42, a sum more than sufficient to build two asylums like the Southwestern; and during all this time the State asylums have been clamoring for more room, in order to provide hospital care and treatment for these outside insane. Is such legislation wise? Is such expenditure of State funds proper? This cost of caring for the outside insane (estimated, after excluding cost of commissions, etc., at about \$200 annually per capita), under conditions often most deplorable, when they could by proper legislation be cared for in the State Hospitals at a much less per capita cost (see Tables), and in a more humane and effectual way, is an outrage upon the citizens of the State and a blot upon our civilization. This expenditure for outside care of the insane by the State is, for the most part, I respectfully submit, worse than thrown away. Confined in jails, in almshouses, or at their homes, in conditions often such as to preclude all possibility of benefit even under the most faithful and skillful treatment (could this be always procured), is it little wonder that most of these cases go to swell the ever-increasing number of chronic insane thrown upon the care of the State? The statistics of all hospitals for the insane show most conclusively that where proper hospital treatment can be given in the first months of insanity, a large percentage (80 per cent. to 90 per cent.) are returned to their homes and to useful citizenship, whereas the percentage of recoveries rapidly diminishes as the duration of insanity is lengthened.

The statistical tables of the Southwestern State Hospital (1897) show that out of 1,403 admissions the duration of insanity was under twelve months in 719 cases; of this number 594 were discharged, or over 82 per cent.

Is not this one of the chief causes of the great increase in the number of the insane thrown upon State care, as shown by the above statistics?

Ample accommodation in the State Hospitals, allowing ready opportunity for early treatment of all cases of insanity, is (aside from prophylaxis) the only true and efficient remedy to check this alarming increase. It is the united voice of the medical profession alone that can thoroughly arouse and educate the public mind to these facts, and enforce the remedy by proper legislation. It is with the hope of securing this united voice and effort on the part of the profession that these facts and statistics are offered. As illustrative of the care and treatment sometimes received by the outside insane, I submit a brief history of one or two cases of the many that have come under my observation.

Mrs. E. C., æt. 35, married, nine children, insane five weeks, admitted to Southwestern State Hospital June 6th, 1889, suffering with suicidal melancholia. General health good. Depositions state that her husband, a well-to-do farmer, had her chained with a trace chain to the floor, and would take her out to the new ground in the day time, chain her to a sapling, and make her grub and pick brush around as far as two trace chains would reach, and then move her to another sapling. This woman was taken by the officers from her husband, and brought to the Asylum. Under treatment, she recovered slowly, and was returned to her home in eight months fully restored.

I record two other cases, to show in contrast a big hearted, humane overseer of the poor, Mr. Jacob Van Dyke, of Buchanan county, in the mountains next to West Virginia. Mrs. S. C., age 65, married, 5 children, became insane in 1889. The State asylums all being crowded, and having been deserted by her husband, she was confined in the almshouse. She was wild, excited and destructive. Had hip-joint fractured by a fall in 1895, and has been bed-ridden most of the time since, but still wild and destructive. Mr. V., not being able to get room in an asylum, and not wishing to chain this woman to the floor, as he was advised, built, at his own expense, a 9-foot paling fence around a one-fourth acre lot for her protection.

The second case, a young woman, M. W., aged 17, violent epileptic mania, with fighting, burning, and destructive tendencies, was also

cared for by Mr. V. during the years 1893-'94, failing to get room in the asylum. Always wild and destructive, she at one time climbed over this 9-foot paling fence and escaped. She was found afterwards in a nude condition running up and down the road, pulling a string 300 or 400 feet long, made by tearing her clothing into shreds. When found, she was pursuing a traveller, who ran for dear life, carrying his valise. Being so closely pursued, he finally took refuge at the gate of the poorhouse. Having retreated into the corner of the fence, and having drawn his pistol in self-defence, he was rescued by the overseer from his perilous position.

This patient finally set fire to her own clothing, and was burned so badly that she died, in 1894. These patients, I think, had no physician, but the two latter were as kindly treated as was possible under the circumstances. These cases are rare, but not so rare, I fear, as we think. Such cases should not occur under a wise, Christian civilization, and would not occur were ample room provided in the State hospitals.

It would be interesting to have the experience of general practitioners, especially in out-of-the-way counties, as to the treatment, or, rather, want of treatment of the insane in jails, almshouses, and often at their homes. Physicians, when called to these cases, are often forced to abandon them to their fate, as conditions and surroundings are such as to tie their hands and preclude all chance of benefit.

In addition to this statistical review, I desire to note in a few words the progress in medical and moral treatment of the insane during the last decade. There has been a growing tendency to lessened restraint (both physical and chemical), to less seclusion, and to increased opportunities for occupation, amusement, and diversion. More liberty each year has been given to trusty insane patients—even to open wards in some cases—with great advantage. Every appearance or indication of prison life is sought to be removed, and a decided change to the hospital idea and service has been more and more apparent, in practice as well as in name, in the last few years. Associated and general dining-rooms (which the Southwest Hospital was among the first, if not the first, to put in practice), are being instituted more and more each year, in this State and the United States, and have proven excellent features, both social and remedial, in hospital management.

While good nutritious food, sufficient in quantity and variety, is a *sine qua non* in the

successful treatment of these defective classes, and more important in the majority of cases than medicine, yet we feel that there is no extravagance or waste. Our State Hospitals are not "Hotel Jeffersons," as was said of the "Western," by a distinguished legislator, last winter, who "hoped soon to go there himself." I pray a kind Providence may deny him his wish, but if he should be so afflicted, I *think* he will be kindly and humanely treated, and given good and nutritious food, and all the means to facilitate his recovery that the State can afford. And when restored, I *know* that his ideas as to the care and maintenance of these sorely afflicted people will undergo a marked change, as has been the case with other distinguished ex-Representatives, who have received the benefit of these State charities. An afflicted child in the family properly receives above all others the devoted love and care of its parents; so it should be with the afflicted children of the State.

As to the strictly medical treatment in the Virginia Hospitals during this period, I think that it has kept pace with the general trend of progress in hospitals for the insane throughout the country; but little special work, owing to limited facilities and equipment, has been accomplished.

In the Southwestern Hospital, believing as we do that "every insane person is a sick person," we give medicine to every patient as far as possible—general and nerve tonics—and individual treatment as special cases require. All patients are taken out of the wards, as far as possible, for some hours every day, and every evening after supper—outdoors, if the weather permits, or in the Assembly Hall in bad weather.

The equipment of the State Hospitals in the way of medical libraries, instruments, appliances, etc., is not such as it should be, which necessarily precludes work and investigation along some lines of clinical and pathological research, such as is carried on in other States. More pathological work, and a central State Pathological Laboratory, and a State Pathologist, to whom could be sent from all the State Hospitals interesting pathological specimens, as is done in New York and other States, might result in great good to the medical profession and to the human race. A uniform system of statistics and tables in all the hospitals is much to be desired in order to facilitate comparison and to obtain more satisfactory clinical and social data. Efforts are now being made to bring this about.

In a paper before your honorable body in 1893, I urged the importance of more thorough

didactic and clinical instruction in all our medical colleges on the subject of insanity. More attention, I think, is being given to this subject in our State medical schools and in other States, but not, I fear, to the extent that its importance demands. There is no general practitioner who is not early and often confronted with difficulties in the management of such cases, and his medical course should fully equip him for such emergencies. As said before, our own excellent medical colleges, with the advantages of abundant clinical material near by, at the Western, Eastern, and Central Hospitals, can do good work in this department. If I have in any measure elicited your earnest consideration of the needs of this afflicted class, I am grateful.

RESULTS OF SOME EXPERIMENTS RECENTLY MADE ON THE RELATIONS TO METABOLISM IN THE HUMAN BODY OF THE SO-CALLED FLESH BASES—KREATIN AND KREATININ.*

By J. W. MALLET, M. D., Charlottesville, Va.,
Professor of Chemistry, University of Virginia.

Dr. Mallet gave a verbal account of experiments in this direction made by him in connection with the nutrition investigations of the United States Department of Agriculture. The main object was to ascertain whether, although kreatin and its anhydride, kreatinin, undoubtedly cannot serve as food in the sense of supplying material for building up the proteid tissues of the body, they may serve as material for the production of mechanical energy and heat, by their undergoing oxidation and adding to the amount of nitrogen excreted as urea.

There were briefly described—

1st. The experiments upon the basis of which was devised an analytical method for quantitatively determining kreatin, kreatinin and urea in the same specimen of urine.

2d. The physiological effects of doses of kreatin and kreatinin, varying from one to fifteen grammes, administered by the mouth, these effects being surprisingly slight, save a retardation in the rate of the heart's action, to the extent of as much as twenty beats per minute.

3d. The results of chemical analysis of the urine collected during a period of twenty-four hours after the taking of such doses, viz.: ex-

trremely trifling, if any, increase of urea excreted, almost complete recovery of kreatinin eliminated unchanged, and similar almost complete recovery of kreatin changed to kreatinin.

It was shown that previous experiments in this direction had been very few in number, conducted with but small quantities of material, and not very clear in the results.

The general conclusions were drawn, that in nutrition investigations the flesh bases should be altogether neglected as among the sources of energy, and that their physiological action upon the nervous system is much slighter than had been by many supposed.

THE AFTER-TREATMENT OF ABDOMINAL SECTIONS*

By SAMUEL LILE, M. D., Lynchburg, Va.,

Surgeon to St. Andrew's Home; Surgeon in Charge Lynchburg City Hospital; Member Medical Examining Board of Virginia, etc.

The subject selected is by no means new; its importance, however, is fully recognized by every surgeon; hence this paper

My object is to outline the usual course to pursue, and to present suggestions as to meeting complications. I do not claim originality for the views expressed, but simply give the methods which have given good results in my hands. In order to manage this treatment properly certain general principles must be followed; yet the medical attendant must in a great measure be governed by the conditions presenting themselves, deviating from these well defined principles only as emergencies demand, but being ever ready to meet complications with promptness. I shall take up the subject under its various heads and attempt to give in detail the proper management of each, beginning at the time the patient is carried from the operating table to the bed.

I. *Rest.*—The very first essential after any operation is rest. In the cases under consideration it must be absolute rest; hence, on leaving the operating table, the patient should be placed on the back in bed with no pillow under the head; this position is maintained for the first few days or until the bowels have acted, except, that the use of a pillow may be allowed as soon as the effects of the anæsthetic have worn off. No movements are allowed save

*Remarks made during Session of Medical Society of Virginia, at Virginia Beach, August 30, 31 and September 1, 1898.

*Read by title during the Twenty-Ninth Annual Session of the Medical Society of Virginia at Virginia Beach, Va., August 30, 31, and September 1, 1898.

those of the head and arms, unless made by the nurse, who may draw up the knees and place pillows under them for support, or tuck a very small pillow under the back, hips or shoulders—in fact, anywhere the patient may fancy, for any change will add temporarily to the comfort of the patient.

This absolute rest is necessary, and should be imperative for many reasons. If not made imperative, the patient will toss and turn in the vain hope of relief, every moment causing increased pain; at the same time a ligature may slip and bleeding begin, or the drainage tube, should one have been used, become misplaced or broken; besides, the already irritable stomach is made worse, the nausea and vomiting more uncontrollable. This absolute rest also assists in overcoming shock. It is important to have a competent nurse in constant attendance.

II. *Shock and Hæmorrhage*.—The symptoms of shock and hæmorrhage may easily be confounded, the chief difference being in the time of appearance. The former exists from the time the patient is placed in bed, being the natural results of the operation, while the latter comes on some time afterwards and may intensify the former.

The extent of shock varies both with the individual and the operation, and ordinarily requires no special treatment. The indications for the treatment of shock following peritoneal sections do not differ from those for shock from other causes. They are rest, heat and stimulants, and, should collapse threaten, normal salt solution per rectum, hypodermatically or by direct transfusion, is the remedy par excellence. The matter of rest has been referred to; as to heat, the temperature of the room should be kept high, say from 80° to 90° F.; hot water bottles should be placed in the bed and closely covered up with the patient, the blankets being well tucked in on all sides, and this is to be maintained until the shock begins to disappear, when it may gradually be changed. Stimulants should be administered by hypodermatic injections and by bowels.—strychnia and whiskey in full doses being my preference. Shock will always be lessened by operating in a well heated room. If a patient who has rallied fairly well from the anæsthetic, with a good pulse and practically normal temperature, begins to show signs of collapse with a rising pulse and a falling temperature, hæmorrhage will usually be found to be the cause; at any rate, the indications are to re-open the abdomen and ligate bleeding points. Neglect to do so would be reprehensible.

III. *Vomiting*.—As the stomach, under almost any circumstances, will remain irritable after an anæsthetic, until its effect has worn off, I deem rest the most efficient remedy for nausea and vomiting; rest of mind, body and stomach as far as practicable.

Experience has taught me that in these cases drugs only aggravate, and crushed ice is a nuisance. Therefore I give absolutely nothing, but rely entirely on rest. Should stimulants and nourishment be indicated, give by hypodermatic injections and enemata. As soon as the patient rallies from the anæsthetic, say four to twelve hours after the operation, I begin the administration of one half grain doses of calomel, placed on the tongue and swallowed dry, every hour. Given in this way, the calomel tends to allay the irritable stomach; it is easily retained, and at the same time it arouses the natural secretions of the intestinal tract, and its certainty of being retained enables one to begin the early administration of really the only class of medicines these patients are likely to need. I refer to purgatives.

IV. *Purgatives*.—The importance of beginning the early administration of purgatives cannot be over-estimated, for the condition of the bowels controls almost everything. It is imperative to secure an evacuation as early as possible, for as soon as the bowels act, if within thirty-six or forty eight hours, and the pulse be below 100 beats per minute, which is usual, the patient is convalescent. On the other hand, should the bowels not act within this time, tympany begins to develop, the pulse to quicken, and soon the patient's condition becomes serious, and nothing will produce the desired change but the action of purgatives. Often have we seen such wonderful changes for the better even after seventy-two hours of seemingly futile efforts, by one free action of the bowels, or even from the passage of flatus alone; hence no effort should be spared as long as life lasts to secure a good bowel movement. To accomplish this, I begin, from six to twelve hours after the operation, the giving of small doses of calomel, say one half grain repeated every hour, until from four to six grains have been given. This is followed by tablespoonful doses of sulphate of magnesia dissolved in hot water every two or three hours, to be repeated immediately if vomited, and continued until the bowels act, or until three or four doses have been given. Failing to get the desired result, a full enema of hot water is ordered, say temperature 110° to 115° F. This proving ineffectual, one of the following stimulating enemata is given: Glycerin $\mathfrak{z}\text{ij}$, and water $\mathfrak{z}\text{iv}$, or

the yolk of one egg and a tablespoonful of spirits of turpentine well whipped together and added to a quart of hot water. The long rectal tube may be used and a high enema given, with which I have been fairly successful. Even croton oil or elaterium may be given. At any rate, never relax your efforts in this direction.

Exceptions to this rule arise in cases where the stomach and bowels have been the seat of operation or injured during operation; then no attempt should be made to unload the bowels until sufficient time has elapsed to allow nature to throw adhesions around the wound sufficiently strong to withstand the necessary pressure produced by purgatives. Opiates are frequently indicated in this class of cases, but very rarely in any other. In fact, in all my work I have found it necessary to resort to opiates in but two cases.

V. *Drink*.—Fluids should be withheld until vomiting ceases, and then be allowed in small quantities until the stomach is proven tolerant, then given freely.

The practice of giving ice in the early stage is bad, for it only adds to the already nauseated condition.

The mouth should be moistened and cleansed from time to time, and at no time after the patient reacts is bathing objectionable, but is rather beneficial from the first and renders the patient far more comfortable.

VI. *Food*.—The same reasons for withholding drink apply to food; aside from its not being retained it would not digest properly even should the stomach not reject it, and thus it might interfere with the action of the purgatives and increase the tendency to flatulence.

Food is withheld in all my cases until the bowels act, unless specially indicated; then it is given by enema.

As soon as the effect of the purgatives has been secured, small quantities, say half an ounce, of liquid nourishment is given, consisting of buttermilk, beef or chicken tea, every hour; should the stomach prove tolerant, the quantity is increased and the interval lengthened. Sweet milk is avoided on account of the danger of producing flatulence.

After 48 to 60 hours, the bowels having moved well, the appetite begins to assert itself and soft and easily digested foods may be allowed, and in two or three days the patient is on a pretty generous diet. Exceptions to this rule occur in those cases where the stomach or bowels have been either the seat of operation or been injured during it. In such cases no food should be allowed until nature has had time to repair the injury sufficiently to with-

stand the pressure incident, say three to six days after the operation.

VII. *Flatulence*.—Without exception, this is the most distressing symptom met with after abdominal sections. It accompanies every case to a greater or less degree, though usually slight, and requires no special treatment. The slight flatulence developing during the first twelve hours need not be noticed, but that coming on about the end of twenty-four to thirty-six hours, accompanied by constipation, together with a weak and quick pulse, is much to be dreaded, as it may indicate sepsis.

The treatment of this condition is first preventive, by withholding all forms of nourishment until peristalsis has been aroused. Should it develop anyhow, sepsis is most apt to be the cause, and purgatives are the chief reliance—in fact, nothing can be accomplished so long as the bowels do not act. Knowing this, the effort to secure a good and free evacuation from the bowels should never be relaxed, for in many instances, when death seems imminent, this will bring about radical changes for the better.

VIII. *Bladder*.—The bladder must be carefully attended to, and the catheter used if necessary, but never until it is absolutely necessary; for if once resorted to, in all probability it will be demanded again. There are a number of little devices by which its use may be rendered unnecessary, such as having the nurse occasionally offer the bed-pan, each time assuring the patient that it is confidently expected that the urine will be voided naturally, and never intimating the artificial means of emptying it. Should doubt arise as to the ability of the patient to void urine, there will be either a dysuria or a complete retention. Once beginning the use of the catheter frequently means the full reliance on the same by the patient, while, if its use is avoided, there will be little trouble. Should the bladder be injured, it must be drained so as to prevent distension lest there be leakage.

The most serious objection to the use of the catheter is the danger of septic infection to bladder; hence, the operation should always be done aseptically. The instrument, preferably a soft rubber one, should either be boiled or have boiling water poured through and over it; the hands made perfectly clean, and the parts about the meatus disinfected. Immediately after use, the instrument should again be cleansed as above and kept in some antiseptic solution—carbolic acid 1 to 40 being very good.

Should cystitis develop, prompt treatment, both internal and local, is demanded. The internal should be to render the urine neutral

in reaction. The local is really the curative treatment, and consists in irrigating the bladder with some mild antiseptic solution or thoroughly hot sterilized water. The solution should be used hot, from 115° F. to 120° F. Boracic acid and permanganate of potash have served my purpose best, though I have seen excellent results from borolyptol. The simplest method of irrigating the bladder is by means of a soft rubber catheter connected with a fountain syringe; by this means, the bladder becomes distended, while it does not with the double flow instruments, and the solution reaches the entire mucous membrane. As soon as distension is complained of, disconnect catheter and syringe and allow the urine to flow out; reconnect and repeat until the solution flows away clear, or as often as is deemed essential. The quantity of urine should always be accurately recorded by the nurse, and if insufficient, diuretics, etc., must be given.

IX. Sepsis.—This is the complication most dreaded by operators, for it is very doubtful if a general septic peritonitis following an abdominal section ever recovers. It progresses slowly at first, frequently not manifesting itself for forty-eight hours, and by the time the physician is reasonably certain of its existence, the patient is beyond relief, and in all probability dead at the end of the fourth day.

The earliest symptoms are a gradually quickening pulse, with a slowly rising temperature, anæsthesia-vomiting is prolonged beyond the usual limits, and soon secondary vomiting due to septicæmia begins. Not infrequently, this secondary vomiting is preceded by a period of a few hours of rest; notwithstanding this, the pulse quickens and the temperature rises, flatulence begins, and, in spite of all efforts, the bowels fail to respond to purgatives, the stomach rejects everything, as does the rectum, profuse sweats begin, the patient becomes restless and tosses from side to side of the bed, the facial expression becomes anxious, and soon an altogether hopeless expression is assumed.

In treating septic peritonitis, purgatives and stimulants are our sheet anchors. The latter should be given for their effect regardless of time, and in sufficient quantities to meet all requirements. Whiskey and strychnin are the stimulants most relied on by me, and I frequently give one-twentieth grain of strychnin hypodermically every hour for several hours. Morphia hypodermically may be indicated in case of excessive pain. Our chief reliance is purgation, as there is no possible hope of recovery as long as constipation exists; hence, efforts in this direction should not be relaxed

as long as life lasts, for we often see radical changes from bowel movements even when everything appears hopeless. Could the diagnosis be made early, possibly reopening the abdomen and thorough irrigation and drainage might accomplish much good. Should the case progress favorably for the first few days, and then symptoms of pus develop, the probabilities are that the trouble is due to local supuration; if so, it is usually readily amenable to treatment. In this instance, the bowels may have moved, but not satisfactorily; the pulse is quick, but of fairly good character; temperature elevated 2° to 4° F., often with morning decline and evening rise; there is little appetite; dull pains and cold creeps disturb the patient; the mind may be cloudy. The treatment is to remove the dressing, locate pus, and drain. Give tonics internally.

X. Dressings.—Unless drainage has been used, or some complication arises, such as the formation of pus, etc., it is never necessary to remove the primary dressing until the time arrives for the removal of the stitches—about the seventh or tenth day. Should stitch-hole abscesses develop, remove the stitches at once. The same precautions as to asepsis should be taken in dressing a wound as were used during the operation. To do this, everything and everybody connected with the operation must be clean—i. e., aseptic. In the first place, the physician must have perfectly clean hands, and should have on a clean apron, lest some dust, germ or other deleterious substance might fall from the every-day clothing into the wound and thus cause mischief. Clean towels, preferably sterilized, should be placed around the wound, and the edges tucked under patient's covering, to avoid contact; remove the old dressing, and if the skin be soiled, wipe with a damp cloth, using as little water as possible. I like to keep wounds as dry as possible, thus giving little moisture for the propagation of germ life. The stitches, one at a time, are to be caught in short tissue forceps and drawn up until some of that portion which has been buried in the tissues is exposed; through this, it is cut with scissors, and in withdrawing it make the tension across the line of incision, not away from it, lest some of the tender union be disturbed. The suture is drawn up and cut as above directed, to prevent the possibility of carrying any infection with it from without as it is drawn down through the tissues. Besides it is less painful, as there is frequently a dry deposit upon the external portion of the stitch next the skin. The stitches being all removed, no water being used unless the surface is soiled

cover with gauze, preferably sterilized or some of the medicated gauzes, cotton in thick layers or pads over this, to be held on by adhesive strips drawn taut to prevent injury or rupture in case of vomiting or cough; over this, place a scultetus or many-tailed bandage, held by safety pins. When properly done, no further dressing will be necessary save for cleanliness.

In my work of this class, I use no antiseptics, but rely entirely on sterilization, and have yet to see the first case of septic infection in my hospital, after quite 40 abdominal sections performed therein.

710 Church Street.

REPORT OF OPERATIVE CASES TREATED IN THE DISPENSARY ANNEX OF THE UNIVERSITY OF VIRGINIA DURING 1897-98.*

By A. H. BUCKMASTER, M. D.; HUGH T. NELSON, M. D.;
P. B. BARRINGER, M. D.; WM. M. RANDOLPH, M. D.

University Station, Charlottesville, Va.

Dispensary Annex of the University of Virginia.

By A. H. BUCKMASTER, M. D.,

Professor of Gynecology and Practice of Medicine, etc.

On the ninety-ninth page of the records of the transactions of the Board of Visitors of the University of Virginia, in the handwriting of Thomas Jefferson, appears the following resolution:

"At a meeting of the Visitors of the University of Virginia, held at the said University, on Monday, the 3rd, and Tuesday, the 4th day of April, 1826, at which were present Thomas Jefferson, Joseph C. Cabell, John H. Cocke, Chapman Johnson, and James Madison, the following proceedings were had:

26. There shall be established in the University a Dispensary, which shall be attached to the Medical School, and shall be under the sole direction and government of the Professor of Medicine, who shall attend personally at the anatomical theatre, or such other place as he shall notify, from half after one to two o'clock, on every Tuesday, Thursday, and Saturday, for the purpose of dispensing medical advice, vaccination, and aid in surgical cases of ordinary occurrence, to applicants needing them.

* Read by title before the Medical Society of Virginia, at its Annual Meeting, at Virginia Beach, August 30th, 1898.

"All poor free persons disordered in body, topically or generally, and applying for advice, shall receive it gratis; all others, bond or free, shall receive it on payment of half a dollar at each attendance, for the use of the Institution, and all persons shall be vaccinated gratis, and the students particularly shall be encouraged to be so, as a protection to the Institution against the malady of the small-pox.

"The students of the medical school shall be permitted to attend with the Professor to examine patients by the pulse, and other indications of disease, to ask of them such questions as the Professor shall think pertinent, and shall permit, and to acquire practical knowledge of the processes of pharmacy by taking a part in the preparation of medicines.

"The moneys so received shall be applied to the providing and keeping up a proper and sufficient stock of medicines and salves, to the procuring surgical instruments for ordinary operations, and to defraying other expenses necessary for the Institution; for the first stock of medicines and for necessary instruments money shall be advanced from the funds of the University to be reimbursed from the receipts of the Dispensary.

"Notice of this enactment shall be inserted in the first *Central Gazette* of each month until discontinued by order of the Executive Committee, for the purpose of keeping under constant notice all those who may wish to avail themselves of the benefits of the Institution.

"Passed April 4th, 1826.

TH. JEFFERSON."

From this account it will be seen that Jefferson realized the importance of clinical teaching, and it is worthy of note that he states that the patient shall pay for the service unless he is poor. Jefferson probably wished to avoid anything which would lessen the self-respect of a young democracy. The word poor is underscored, and it is feared that though the same provision is made in the clinics of the larger cities, the underscoring is omitted—at least in practice. The allusion to vaccination is particularly interesting, for Jefferson was one of the earliest advocates of it in this country. Vaccination was introduced in America in 1801, and it was practiced in that year by Jefferson in his own family. He was then President of the United States, and his prompt recognition of its benefits doubtless induced many to follow his illustrious example.

The most important step toward establishing a Dispensary was made in the year 1892, when the University erected a building for this purpose at the terminus of the Charlottesville

street railroad. The rapid growth of the clinic soon showed the need for such an Institution, and the advantages of practical work to the student, to say nothing of the enormous good it did in the way of charity, justified the expense. Over 3,000 cases were treated during the year 1897-98.

Two years ago, some of the cases could be supplied with hospital accommodations at the Piedmont Hospital, in Charlottesville; but as the clinic increased, it was felt that we needed facilities nearer at hand, and, to meet this demand, some of the public-spirited and charitable ladies of Charlottesville and the University raised a small sum of money. This enabled us to hire a small framed building within a short distance of the Dispensary, so that a patient could be transferred from the operating amphitheatre to its wards. This house is known as the Dispensary Annex.

About two years ago, the Piedmont Hospital was closed from lack of funds, and there is nothing to take its place nearer than Richmond, except the Dispensary with its ten beds. The need for the enlargement of the Annex is known best by those who deal with the Charlottesville poor. During the session of 1897-98 the Board of Visitors made a small appropriation, which enabled us to rehire the building, secure the services of a nurse, and meet, in a modest way, the expenses of the Annex. We were aided by the merchants of Charlottesville who gave us supplies at cost, and by the congregation of the Episcopal church at Ivy, who donated a collection to us.

It was difficult at first to induce the patients to enter the hospital, however much they needed treatment. The whites feared that to enter its portals was to leave hope behind, and the negroes were of the opinion that it was a scheme of the Professor of Anatomy to add to his stock of subjects. Such prejudice has entirely disappeared, and at present we need accommodations rather than patients.

The result of the operative work in the past year has been very satisfactory; the low range of the temperature following operation speaks not only for careful aseptic work, but also, I believe, for this remarkably healthful locality.

Below will be found a short *resumé* of the operative cases for the year 1897-98. It will be seen that though they include cases of a most serious nature, there has been but one death, and this in a case of general tuberculosis a week after an explorative incision. It is not intended to go into the cases minutely, but merely to give the Society an outline of what has been done. It is scarcely necessary to state

that all of the gentlemen connected with the work of the Dispensary are firm believers in the need of the most minute care in regard to aseptic detail. In the surgical department, chloroform has been used, and the gynecological operations were done with ether.

Operative Cases in the Surgical Department.*

Service of Hugh T. Nelson, M. D.

Compound Dislocation at Tibio astragaloid Joint, Right Side; Amputation of Leg.—Mrs. Fanny N., Orange, 38 years of age, admitted to Annex July 20, 1898. Fell about two feet, striking on three-cornered rail and turning ankle. Internal maleolus protruded through the skin. Was seen one month after the injury. The joint was in a bad condition and the patient septic. Her mother died of tuberculosis of the lungs at 46 years of age. The joint was treated for three weeks by careful irrigation with 1:2000 bichloride of mercury and hydrogen peroxide, but at the end of this time it was found necessary to remove the leg at its upper third. The stump was dressed thirteen days after the operation, showed union by first intention.

Tubercular Peritonitis, Enlarged Mesenteric Glands and Tuberculosis of Lung; Explorative Coeliotomy.—John W., colored, aged 22 years, Charlottesville. Patient gave a tubercular history. There was a large and painful mass on the left side in the region of the kidney and general abdominal tenderness. Pleurisy on the left side. On opening the abdomen for the purpose of exploration all the peritoneum was seen studded with tubercular nodules. The tumor consisted of an enormously enlarged mesenteric gland. The abdomen was washed out and then closed. The patient died a week later.

Necrosis of Bones of Little Toe; Amputation of Toe.—Joe T., Philadelphia, Pa., 46 years of age. Wounded in the naval battle off Santiago de Cuba, July 3d, 1898. Entered the Annex August 5th. The necrosis was so extensive that it was necessary to amputate at the tarso-metatarsal joint. Union by first intention.

Ischio-Rectal Abscess; Incision.—James H., colored, Charlottesville, 28 years of age. Admitted October 27th, 1897. Abscess opened and drained; discharged cured November 17th.

Ununited Fracture of Humerus, United by Silver Wire.—David S. B., 43 years of age. Admitted May 23d, 1898. Fracture occurred about three and a half months ago. Had been treated but union had not taken place. Gave

* Reported by George R. Livermore, Clinical Assistant in Surgery.

history of free use of alcoholism formerly, but claims to have abandoned its use of late. An incision was made over the seat of fracture and slight fibrous union found. Bone resected and two ends wired together. Patient made good recovery and now has perfect use of arm.

Web Between Middle and Ring Finger of Left Hand; Plastic Operation.—Kate P., colored, 17 years of age. Admitted November 1, 1897. Plastic operation. Part of flaps sloughed. The result was very fair, for the patient has good use of ring and little finger.

Perineal Fistula; Incision.—Robert J., colored, aged 24 years. Admitted January 26, 1898. Operation February 9th. Sphincter cut in two places and fistula freely opened. March 9th. Patient dismissed from hospital with complete control and fistula closed.

Compound Fracture of Right Humerus, Greenstick Fracture of Right Radius at its Lower Third, Dislocation at Right Radio-Carpal Joint.—Willie P., Charlottesville, 10 years of age. Fell from cross piece of telegraph pole. Fracture of humerus exposed by a four-inch incision over external condyle. Lower fragment fastened to upper by means of a wire nail. Dislocation of the radius reduced. Drainage tube inserted into lower part of wound and incision closed with a continuous suture. Posterior splint applied and patient placed in hospital. Drainage tube removed in five days. Wound in good condition and patient doing well.

Talipes Varus, both Sides; Phelps' Operation.—Female, 10 months old. Lived near Charlottesville. March, 1898. Phelps' operation on right side. Two months after, done on left foot. Result excellent.

Large Strangulated Hernia; Bassini's Operation.—James T., colored, 32; Charlottesville. Patient addicted to morphine and alcohol. Large strangulated inguinal hernia on left side occurring through cicatrix left from a McBurney's operation for radical cure. Sac dissected out and cut away, atrophied testicle and cord removed, and inguinal canal obliterated by Bassini's operation. Discharged cured.

Hydrocele of Cord on Right Side; Operation for Radical Cure.—Charles B., Charlottesville, 55. Large hydrocele of right cord. Tunica vaginalis stitched to skin and wound left to close by granulation.

Operative Cases in the Gynecological Department.*

Service of A. H. Buckmaster, M. D.

There were six cases of curettage. Three

times this operation was done for the relief of hæmorrhage, once for the removal of diseased endometrium, and twice to get scrapings in cases of suspected malignant disease. The sharp curette was used in all cases, and after the uterine cavity had been thoroughly cleaned it was swabbed out with a mixture of equal parts of carbolic acid and glycerin. None of these cases were followed by inflammatory disturbance, and none showed evidence of malignant disease.

Cystocele; Anterior Colporrhaphy.—Mrs. S., Alberene, colored. Admitted to Annex January 18, 1898. Suffered from bearing down pains due to cystocele. The pelvic floor had been restored. There was prolapse of the urethral mucous membrane, forming the mis-called caruncle. Emmet's operation was done on the anterior wall and the patient has been entirely relieved of her symptoms.

Laceration of the Pelvic Floor; Operation for Restoration.—Mrs. G., Charlottesville, 43 years of age. Admitted to Annex March 1, 1898. Suffered from bearing down pains in the loins and back, the result of an old injury to the pelvic floor. A preliminary curettage was done for a semi-purulent discharge from the uterus. Ten days later the pelvic floor was repaired by Emmet's operation with an excellent result.

Pelvic Abscess; Incision and Drainage Through Vagina.—F. C., Garth's P. O., colored, aged 27. Admitted to Annex May 9, 1898. Five children. Has had severe pains in the right inguinal region for long time. It has been very much worse since a miscarriage six months ago. A large mass found on the right side of pelvis. Indistinct sense of fluctuation. Patient etherized and cervix drawn forward. Incision of about four inches made across the vagina behind the cervix and extending through the vaginal wall. With great care the finger bored into the mass until there was a profuse discharge of pus—not less than a pint. The abscess cavity was drawn to the vaginal mucous membrane after the opening had been dilated nearly to the extent of the incision. The cavity was filled lightly with gauze and patient discharged on the 7th of June, when the cavity had almost become obliterated.

[The operator stated he believed that in all cases where a pus cavity can be reached easily from the vagina it should be drained by this passage. It may be necessary to open the belly later to free the appendages from adhesions, but it can then be done with much less risk to the patient, and it may not be required at all. In the present case the patient seems to be relieved of all the unpleasant symptoms.]

* Reported by J. H. Tucker, Clinical Assistant in Gynecology and Practice of Medicine.

Ovarian Cyst with Twisted Pedicle; Ovariectomy.—Mrs. T. B., Belmont, Charlottesville. Admitted July 2, 1898; 36 years of age. Noticed after the birth of her child two years ago that she never returned to her normal size. Her last child was only eight weeks old when admitted to the Annex. An abdominal incision revealed a large cyst, every square inch of which was attached by fresh and easily separated adhesions to contiguous pelvic and abdominal organs. The pedicle was twisted twice to the left and the cyst contained over a gallon of fluid. The fluid was evacuated without spilling a drop into the abdominal cavity. A gauze pad with a small central opening was placed between the cyst and abdominal wall, and then, turning the patient on the side, the cyst was evacuated through the opening. This method permits the evacuation of the cyst more safely than the use of any of the simple or complicated trocars generally employed. For a week before the operation, the patient suffered from a local peritonitis, which made itself known by great local pain and considerable constitutional disturbance. The case was diagnosed by Dr. Nelson before sending it into the Annex, as a case of ovarian cyst complicated by a peritonitis from some cause. The report of the pathologist states that in places the cyst presents evidence of sarcomatous degeneration. The patient made a good recovery, and is now attending to her household duties.

Abscess of Right Ovary; Removed by Section.—Maria B., colored, Charlottesville. Admitted July 9, 1898. Youngest child was two years old. Case referred to Annex by Dr. Baker. There had been fever with pain and tenderness over a tumor mass on the right side of the pelvis. Had a purulent discharge from vagina. Had been under treatment about a week. She was kept under observation at the Annex for a week. She was then in a septic condition. Abdominal incision revealed an abscess of the ovary about the size of a lemon, which was dissected out and removed. Some of the contents spilled into the abdominal cavity, which was wiped out and flooded with the normal saline solution. The patient's pulse was over 140 when operation commenced. The seat of the abscess was carefully covered by peritoneum and an opening was made into the vagina, and drainage from the abscess site was secured by gauze which was not removed for ten days. The patient made a good recovery.

Fibro-Miomata of Uterus, Intra-Ligamentous Fibroid, Ovarian Abscesses, Pyosalpinx, and Chronic Appendicitis; Hysterectomy, Removal of Diseased Appendages, Appendix and Fibroid.—

Mrs. M. C., colored, Free Union. Sent by Dr. Bibb. Entered Annex May 18th. Patient had large pelvic tumor and suffered from painful and frequent micturition and pain in the pelvis. Abdominal incision showed the bladder extending nearly to the umbilicus. The uterus about three times its normal size and covered with fibro-miomata. Ovaries size of lemons and tubes much enlarged. The uterus, tubes and ovaries were removed. A large fibro-myoma, separating the layers of the broad ligaments, had lifted up the bladder from its normal position and insinuated itself between the viscus and the cervix. This was enucleated after some difficulty and sac closed from above with drainage into the vagina. The appendix, which was much thickened and enlarged, was removed. The patient made an uneventful recovery. Discharged June 17th in good condition.

Operative Cases in the Ophthalmological and Aural Department.

Service of P. B. Barringer, M. D.

Mastoid Disease; Incision and Curettage.—May 20th. Mildred C., colored, aged 11. History of measles one month previous, followed by earache in both ears, and afterward by much headache in left side of head. Examination: Temperature 100½, pulse 144. Swelling tender to touch and fluctuating over left mastoid portion. Left drum intact, white and not bulging. Hearing watch at two inches. Immediate operation advised.

May 21st. Under general anæsthesia and after careful preparation, Dr. Hedges made an incision from upper border of concha to tip of mastoid. Pus exuded freely. Bone carious directly behind the external auditory meatus. Diseased tissue removed with curette and forceps till mastoid cells and antrum were opened, and lateral sinus exposed for about one-half inch. Granulation tissue filling antrum was scraped out, cavity irrigated, and filled with formalin jelly. Temperature before operation, 101½, immediately after, 99.

Dressing removed at end of week. No pus at any subsequent dressing, and recovery uneventful. Hearing good.

Penetrating Wound of Cornea and Prolapse of Iris; Iridectomy.—July 1st. Maggie G., colored, nine years of age. Came to clinic with history of cinder in right eye three weeks previously. No treatment during this time. Intense pain, photophobia, lachrymation, only perception of light sympathetic irritation of left eye.

Lids much swollen, conjunctivæ deeply injected, penetrating wound of cornea in lower

inner quadrant close to corneo-scleral junction. Iris prolapsed. Under cocaine iris was pulled out and cut off by Dr. Skeen. Atropin grs. ij and water 5j instilled in both eyes. Eyes bandaged and patient put to bed.

Subsequent Treatment—Frequent boracic acid injection, yellow oxide of mercury ointment (gr. j—5j), and atropin.

July 7. Iris adherent to wound. Free iridectomy to release it.

July 11. Patient allowed to go home, to return daily for dressing. Gradual improvement.

July 29. R. E. V=20 40. Media and fundus in good condition.

Wound of Eye—Enucleation.—Morris B. (colored), aged 55 years. Ten days before coming to clinic received blow in right eye while pulling up roots. Examination: Temperature, 102; pulse, 132.

Penetrating wound of cornea near its centre; cornea sloughing; panophthalmitis; lids much involved; sympathetic inflammation of left eye.

Under general anæsthesia, eye was enucleated by Dr. Hedges. Patient put to bed. One hour afterwards, temperature fell to 99, and under rest and atropin patient improved so much that he was discharged well after one week.

Section of ball showed piece of stick three-quarters of an inch long, and one-eighth of an inch in diameter, which had entered the vitreous obliquely, perforating ciliary body.

Operative Cases in the Genito Urinary Department.*

Service of Wm. M. Randolph, M. D.

In the genito-urinary department, there were four suppurative buboes removed. Four bad cases of chancroid with phimosis were operated on. In three cases, the prepuce was split along the dorsum and the ulcer curetted and cauterized with carbolic acid. Circumcision was advised as a secondary operation in each case, but the patient refused.

There were five cases of circumcision—two for convulsions, both of which have fully recovered.

One case of internal urethrotomy for stricture, and three meatotomies for chronic urethritis.

In addition to these operative cases, there were a number of cases of acute and chronic urethritis; several cases of cystitis; several of chancroid; a number of specific disease in all

stages; five or six of epididymitis and orchitis.

There is a fair sprinkling of skin cases.

Altogether, the clinic gives the men quite a little experience in genito-urinary and skin work.

THE HIGH TENSION CURRENT IN THE TREATMENT OF NEURITIS.*

By FRANCIS B. BISHOP, M. D., Washington, D. C.

The treatment of neuritis, as well as the treatment of all disease, should, as far as possible, be based upon a knowledge of etiology and pathology. There are certain structural changes in the nerves and the muscles supplied by them that has been noted for many years, and have been carefully copied and handed down by every author who has written upon this subject. It seems that, to discuss the subject of the treatment of disease from the standpoint of electro-therapeutics, it becomes necessary not only to take into consideration the gross lesions, but to consider primarily the changes molecular that there is reason to believe is taking place in the centres in the brain or spinal cord; especially is this the case in neuritis, where the disease comes on in consequence of the overpowering influence of alcoholic stimulants and inorganic poisons, as well as from the toxic effects of diphtheria, scarlet fever, small pox, etc., and from the infection of typhoid and malarial fevers, and other diseases which are well known to give a parting shot in the form of multiple neuritis. While traumatism appears to exert its influence upon the nerve or nerves injured, it does not seem unreasonable to suggest that a resulting neuritis is the direct product of molecular change in the centres of which these individual nerve fibres are but the continuations. These molecular changes are due to infection from the septic lesion; there is no evidence of an aseptic wound causing neuritis.

I have been unable to discover any positive evidence that such a condition ever existed as idiopathic neuritis; a cause exists, whether it can be found or not. We may take diphtheria as a type of disease commonly followed by neuritis, known to too many of us on account of pranks played by the toxins upon the nerve centres of our patients—often at a time when all appeared bright and hopeful. Who among us that have enjoyed a large general practice has not been appalled by the sudden death of

* Reported by Paul L. Cocke, Clinical Assistant.

* Read before the American Electro-Therapeutic Association, at Buffalo, N. Y., September 14th, 1898.

his patient at a time when all seemed progressing favorably, due to toxic influences upon the cardiac and respiratory centres? Paralysis of the soft palate is a very common sequel, as well as peripheral neuritis followed by paralysis and wasting of the muscles, more or less severe according to the intensity of the toxic effect upon the centres; therefore, the neuritis is of degree and not of kind, and depends for its location in the periphery upon the special centres attacked.

What is true of the toxins of diphtheria is true also of the toxins of other diseases, and the effects may vary according to the intensity and upon the action of the special poison upon the centres in the brain and spinal cord.

Prof. Dolbear read a paper before this Association in Boston in 1896 entitled, "The Relation of Physics to Physiology," from which the following facts are quoted: "The molecule of protoplasm is made up of a great many atoms of carbon, hydrogen, oxygen, nitrogen and other elements." And again: "The properties of atoms are not alike on different sides; they are allotropic or polarized, and when any given atom is turned around in a given compound, the resultant is changed by the configuration—not because the particular atom has assumed a different property, yet the molecule exhibits a different quality and may have a different function, and this is to be assumed of every atom of every combination." In the light of our present knowledge, we assume all physiological processes to be due to activity of atoms, or a rapid interchange of molecular elements. This activity is going on in all matter; therefore we would expect to find it in the nerve and muscular fibres, as well as in the nerve centres themselves, and this is undoubtedly true; but it would be expected to be equally true that the "configuration" of the molecules in the gray matter of the brain and in the spinal cord centres are different from those in the nerve fibres, as the function of the one is to receive and transmit impressions, while that of the other is to carry these impressions to and from the centres. As we have seen, according to Prof. Dolbear, that all matter depends for its energy upon its atoms and molecules, and that "all the so-called organs of animal structures are composed of these complex energized molecules, and all physiological functions are but the steps by which this energy is changed from its more concentrated form to more diffused forms, and there is nothing in the whole line of phenomena but a series of physical and chemical reaction"; so, to change a physiological function to a pathological con-

dition, is only to inhibit the healthy activity of the atoms in their interchange from molecule to molecule, or change the configuration by causing the atoms to change their position in the molecules. As all impressions are supposed to be carried to the centres before they are recognized by the peripheral nerves, so also all poisons in the system, whether from disease or other sources, are carried to these centres; and as they are acted upon by the poison, the atomic activity is inhibited or a change of position in the molecules takes place, changing the functions of the molecules in the centres; therefore, instead of transmitting healthy physiological functions to the nerves and muscles, false impressions are received and transmitted, changing the molecular activity of every nerve and muscle under the jurisdiction of the centres involved. Therefore, we have numbness, tenderness and pain, loss of motion and wasting of the muscles, with change of electrical reactions in the extremities, or where the cardiac or respiratory centres are affected; sudden death quickly follows. If these facts are true, or partially true, electricity, as a curative agent, becomes at once the most rational means of treatment.

As all physiologic and other energies are said to be due to atoms and molecules, so electrical energy must be due to the same prime cause, and possess also the power of directing the movements of atoms in water, in masses of protoplasm, or other matter. Every writer, whose work I have consulted upon this subject of neuritis, warns against the use of electricity in the early stages, and advises us to begin with a mild galvanic current of from two to five or six milliamperes. These same authors will tell you that you may make sure of your diagnosis by testing for the reactions of degeneration. Now, this cannot be done properly without causing discomfort, to a greater or less degree, in the healthy individual, and it is simply barbarism to irritate tender nerves with a small motor point electrode searching for reactions of degeneration. We find the same reactions in poliomyelitis, and should depend upon the other symptoms for our diagnosis. I am not prepared to denounce the use of the old reliable galvanic current in the treatment of these cases, for it can be used with great benefit when carefully and cautiously applied, but experience has led me to believe that we cannot get as good results as with a high tension current. Galvanism seems to have a selective action upon the protoplasm of muscles; this is evidenced, or said to be, from the fact that we get the degenerative reaction with the galvanic

current when the nerve supply is cut off, and when we fail to get any responses from the current of tension, while the Faradic current is said to act directly upon the terminal nerves. In this disease, we are dealing primarily with nerve centres and nerve fibres, and it is through these we hope to work—it is upon these we wish to exert the electric energy, with the hope that we may stimulate to increased activity their molecular elements and aid them to throw off the inhibitory influences of the toxins and to resume their physiological functions. The application of galvanism to the course of the peripheral nerve is accompanied by heat localized at the point of contact, accompanied by the accumulations of acid if the active pole be positive, and alkalies if the action of the pole be negative. If there is a change in the chemical reaction of a diseased nerve, it is due to a change in the atomic arrangement or activity in the molecules of the central organs, and to add more acid to an acid nerve is hardly a reasonable suggestion; and if an alkali is brought directly in contact with an acid nerve, we would naturally expect effervescence—in either case it would seem that an increase of pain would follow. These conditions might or might not occur, but are worth our consideration.

By the ordinary method of applying the galvanic current over the course of the nerve and to tender points and stimulating degenerated muscles, the pressure in voltage is quite limited, while the amperage is very great as compared with the high tension current. The galvanic current follows the course of least resistance and is most intense at the terminals where the work is done in overcoming resistance, and while it follows the law, that all conducting bodies within a reasonable area must become charged by induction before the direct lines of energy assume their full intensity, yet the inductive activity of a mild galvanic current is very slight, and must have a very limited effect upon the atoms and molecules in distant parts of the body. On the other hand, it has been demonstrated to this association, by Dr. Elihu Thompson, at Lynn, Mass., that the high tension current does not always follow the course of least resistance, and it is a common experience that the higher the tension, the more difficult it becomes to insulate the conductors, until we get to the high tension currents of our modern static machines, when insulation is almost out of the question, while the inductive capacity is very great; you cannot confine its influence; you may localize its partial effects at the ter-

minals with the high tension coil, with the static induced, with the convective needle discharge, or with the ball and spark, but in each instance the whole body is charged to the full potential of the machine, and for every vibration that passes between the electrodes, every atom and molecule in the entire body receives a corresponding vibration by induction; and this may be done so easily and comfortably, that the treatment is often a source of pleasure to the patient. I have never used the static spark in these cases, as the patients are usually very nervous, and I have, myself, been rather timid and afraid to subject them to what seemed to me to be a source of local irritation. The higher the voltage and the more rapid the vibrations the less irritation we seem to have, and the more decided the action seems to be in relieving pain. I know of no instrument for measuring the voltage of the static machine, but it is known to be very high.

In the February 12th number of the *Western Electrician*, there appeared an article, taken from the *Scientific American*, describing an apparatus designed by Mr. John Trowbridge, which he constructed for the study of the discharge of electricity through gases, but he was unable to get results with so low a voltage. This is composed of 10,000 small storage cells from which he claims to get a pressure of 20,000 volts and eight amperes; this he afterward transformed into a very high tension current by the aid of the "Plant's Rheostat Machine." With this machine he claims to exalt his 20,000 volts to be 1,200,000. He says: "I had at first intended to use this large battery in the study of electrical discharges through Crookes' tubes, but I speedily found that X-rays could not be excited by a difference of potential represented by 20,000 volts. I found that at least 100,000 volts were necessary to produce them strongly." This gives me some idea of the voltage I use in these cases, when it is possible to get them to a static machine. With the small Leyden jars connected by the discharging rod, my current is taken from a shunt on one side of the machine and from the prime conductor on the other, giving me a continuous discharge and sufficient to excite beautifully an X ray tube, so, according to Mr. Trowbridge, I am charging my patient to the potential of nearly or quite 100,000 volts, and the current is uni-directional, with vibrations so rapid as to appear almost continuous.

One large surface of electrode is placed so that it will cover all the cervical and several of the upper dorsal vertebræ; a suitable electrode

is placed over the seat of pain or to the extremities affected; the machine is started and the spark gap gradually opened until the patient feels only slightly the vibrations. This treatment continues for twenty minutes. The first patient treated by this method was a member of my own household, who had suffered with a succession of large boils under the arm and over the distribution of the brachial plexus; these left her with a neuritis affecting especially the muscular spiral nerve. The pain was continuous and intense, and the arm was useless; in fairness to those who use the spark, I will say that I did not use it, but I did use every other method known to me with only partial relief, when it occurred to me the idea of using the high tension uni-directional rapid vibrations. The patient sat upon the chair in agony, and in five minutes was fast asleep. I will not detail cases, but will state that I have treated a number of cases of localized neuritis arising from various causes, and always, so far, with perfect success. Several cases of multiple neuritis, treated at the homes of the patients with the high tension cells, have been steadily improved. An interesting case was one treated with Dr. T. N. McLaughlin, of Washington. The patient was a gentleman about forty years of age, rather a fast liver, and, in addition to the neuritis, the liver could be felt as a hard resisting mass fully three inches below the lower border of the ribs; the abdomen was distended to such an extent as to render the breathing short and labored. This patient had tried the dry heat process, and had resorted to Christian science for some time. Dr. McLaughlin was called in and did all for him that medicine and sound professional advice could do, and I feel deeply indebted to him for his confidence and intelligent support throughout the treatment of this case, which was under treatment about thirty-seven days; at the end of this time, he was able to walk about, the pains in his feet and limbs had almost entirely disappeared, the liver was materially reduced in size and consistency, and the functions of the body seemed to be going on normally. A large electrode to the spine and another to the feet, with treatment lasting from twenty minutes to half an hour. I would sometimes find him in intense agony and leave him entirely easy.

I have had a number of cases of greater or less intensity, and have recently treated all, as far as possible, with the high tension current, and have now a severe case under treatment that is rapidly improving. After sensation returns and the pains and tenderness cease, I

sometimes use a mild galvanic current over the muscles with very comforting effect. With the high tension current, notwithstanding the fact that the electrodes are placed upon the body so that the greatest density of current may flow between them, you may pick a spark from any portion of the body by touching the patient, so that not only the centres and nerve fibres in the course of the current are directly under its influence, but every atom of every molecule in the entire body is charged with an electric pressure of several thousand volts; and as they rapidly change under this pressure, they gradually throw off the toxic lethargy that has changed their functions and restore healthy activity.

With my experience in the use of the high tension current, I sincerely hope no patient will be denied its use in the early stages of neuritis, or any stage.

1913 *I Street, N. W.*

Holocain as a Local Anæsthetic in Surgery.

Dr. R. C. Ellett, of Memphis, read a paper before the "Mississippi Valley Medical Association," October, 1898, on the use of holocain as a local anæsthetic in eye surgery. He has used it in about fifty eye operations, including cataract extractions, iridectomies, paracentesis corneæ, tenotomies, advancements, rolling the lids, etc. He finds it a very satisfactory anæsthetic, with no action but that of producing anæsthesia. Its solutions are stable and antiseptic. Anæsthesia comes on in about one minute, and lasts twenty minutes. No toxic symptoms follow the use of holocain in the eye. It does not attack the corneal epithelium, and penetrates deeper than cocain.

Milk Infection.

"I have just had an opportunity of seeing the wonderful value of Imperial Granum in milk infection. I ordered the baby to be fed on Imperial Granum, prepared with pure water only, increasing by one teaspoonful the quantity of Imperial Granum directed to be used when prepared with milk. An immediate improvement and most satisfactory recovery of the case was the result." — M. D.

Imperial Granum.

According to the *Journal of the American Medical Association*, is "recognized by many leading physicians as the standard among prepared foods." It is not only food for infants and children, but is excellent for invalids, convalescents, nursing mothers, and the aged.

DIAGNOSTIC AND THERAPEUTIC USES OF TUBERCULIN.*

By CHAS. W. AITKIN, M. D., Flemingsburg, Ky.

The author deplores the fact that diagnostic tyros have retarded medical science by refusing to avail themselves of every possible means whereby accurate diagnoses may be made. He hopes, by this paper, to induce general practitioners to avail themselves of the *diagnostic* and *therapeutic* value of tuberculin.

He recites the characteristic reaction following test doses of tuberculin, in tuberculous disease of the bladder, of bone and other tuberculous conditions; and extols its virtue as a differential diagnostic agent in cases of masked syphilis resembling obscure tuberculosis.

He calls attention to the fact that latent tuberculosis so frequently exists in cases that have not been diagnosed, oftentimes where it has not been suspected, and that this preparation is of great value in clearing up these cases; he does not, however, claim that all such cases are suitable ones for the use of tuberculin therapeutically, but in all cases of suspicious tubercular disease, or where that peculiar condition exists which leads us to believe that this condition may be a remote cause, he recommends the use of test doses of tuberculin to clear up such diagnosis.

He refers to cases of chronic cystitis persisting after medical and surgical treatment, which gave a decided reaction after test doses of tuberculin. The cases referred to had been benefited by the use of this preparation, administered therapeutically, but they were of too recent date for him to draw any conclusions as to the permanency of the relief given. He notes that in pulmonary tuberculosis, both in cases confirmed by microscopy and in those in which microscopic examinations were negative, that tuberculin injections in diagnostic doses brought about the reaction peculiar to the administration of this preparation.

In the diagnostic use of tuberculin he recommends to give from five to eight mg. daily, or bi-daily, for two or three days; if no reaction follows he concludes that no tuberculosis exists. Therapeutically, he recommends $\frac{1}{2}$ to $\frac{1}{4}$ mg. as the minimum dose for beginning, gradually increasing it daily, or bi-daily, from $\frac{1}{16}$ to $\frac{1}{8}$ mg. at each hypodermic injection; he uses this upon an average of one week, and then allows a rest of about the same period

when he begins it again, starting this time with the maximum dose of the preceding period of administration; he keeps up this plan of treatment for one or two months. He does not think at present that the therapeutic value of tuberculin is at all equal to its value as a diagnostic agent.

He refers to one case of nephritis followed by a serous pleuritic effusion as having occurred in his practice. He has the solution for injection prepared fresh every few days, using $\frac{1}{2}$ per cent. of carbolic acid solution as the menstruum; he urges the necessity of perfect asepsis. And concludes—1st. That tuberculin is of great value in early diagnosis of tuberculosis. 2d. It is of equal value in differentiating between tuberculosis and other diseases which closely simulate it. 3d. In beginning tuberculosis it sometimes is a curative agent. 4th. In local tuberculosis of the skin and glands the diseased condition is usually relieved.

HYDROTHERAPY IN DISEASES OF THE STOMACH.*

By GEO. D. KAHLO, M. D., Indianapolis, Ind.

In the treatment of diseases of the stomach, water ranks first among all our therapeutical resources. Cold water is more stimulating to the secretions, and is a better laxative than hot. Hot water has a greater influence as a diaphoretic, is more soothing to the gastric mucous membrane, is a better solvent, and is more generally applicable as a remedial agent. The condition in which the drinking of hot water is attended with the greatest benefit, is chronic gastritis, but its use in this way must be limited to those cases in which the motor function is intact. It should be administered in quantities of from eight to sixteen ounces one hour before each meal and at bedtime; should be taken as hot as can be borne with comfort and sipped very slowly. It may be used with almost equal benefit in functional conditions associated with normal motor activity. Mineral waters of feeble concentration have about the same influence as the ordinary potable water but the effects of the stronger waters are dependent upon their chemical constituents.

Acidulous and saline waters are indicated in conditions in which there is diminished secretion, as are also alkaline waters in small quantity. The stronger alkaline waters are most

* Original abstract of paper read by title before the Mississippi Valley Medical Association, Nashville, Tenn., October 10-14, 1898.

* Original synopsis of a paper presented at the meeting of the Mississippi Valley Medical Association, Nashville, Tenn., October 12, 1898.

useful in hyperacidity and gastric ulcer. Sulphated waters are of benefit in the treatment of constipation. Lavage is indicated in the conditions in which the drinking of water is contraindicated. In dilatation it is a sovereign remedy. Weak salt solutions are to be recommended when there is diminished secretion and bicarbonate of soda solutions in hyperacidity. The best means for the employment of antiseptics is by the gastric sprays, as there is less danger from absorption. Externally, cold applications are indicated in acute gastritis and in the control of hæmorrhage and vomiting. Hot applications should be employed in gastralgia, hyperæsthesia and chronic gastritis. The Scottish douche is of benefit in neurotic conditions. The essential factors governing a successful hydrotherapy are an exact diagnosis, a thorough knowledge of the causative influences, and of the effects of the remedial agent, as also the confidence and co-operation of the patient.

Correspondence.

Retinoscopy, an Objective Method for Examination and Correction of Errors of Refraction—Graduated Tenotomy or Muscle Clipping Not Adopted in England—Hancock's Operation for Glaucoma—Antisepsis?

LONDON, ENG., Oct. 22d, 1898.

Dear Editor,—I came to London from Paris about three weeks ago, and have been spending the most of my time while here attending the eye clinics of Mr. Hartridge at the Charing-Cross Ophthalmic and the Westminster Hospitals.

Mr. Hartridge is the great advocate of *retinoscopy as an objective method for the examination and correction of errors of refraction*. This is not a popular method in America, but exceedingly so in England. As used by Mr. Hartridge, it is a very valuable method. Mr. Hartridge uses a large plain mirror, about an inch and a half in diameter, at five (5) feet distant from patient. The examination is made in a very dark room, with a light just on top of the head, or a few inches behind the head. The shadow is very clear, and is seen plainly moving against the mirror, with the mirror, or obliquely, according to the error of refraction, whether it be caused by hypermetropia, myopia, or astigmatism. First he examines the

vertical meridian, then the horizontal, and if the shadow be clearer in one direction than in the other, there is undoubtedly astigmatism, and the difference between the strength of the glass that turns the shadow in one meridian and the other is the amount of astigmatism.

This is undoubtedly the most valuable method we have for examining intelligently children and adults who cannot read—and there are a great many who cannot read in Virginia—"Ned Glass," and the rest of our good school superintendents, notwithstanding.

The English ophthalmologists smile when we Americans talk about *graduated tenotomy or muscle clipping*. I have seen a great many cases in Mr. Hartridge's clinics who were suffering from heterophoria of some kind, and he did not even make an attempt to get at the degree of muscular insufficiency. I think a surgeon is treating a patient very badly when he does not try every means of relief. If Dr. Stevens never does another thing in ophthalmology, than that he has already done in introducing graduated tenotomy, he will not have lived in vain.

Some time ago, Dr. Pollok, of St. Louis, published an article advocating, in very strong terms, what he was pleased to call *Hancock's operation for the cure of glaucoma*. It consists in passing the point of a triangular knife (*Beers'*) into the sclero-corneal margin at the inner angle of the eye-ball, through the ciliary bodies, thus doing a ciliary cystotomy, which was claimed to cure a glaucoma as well as an iridectomy, and not near so dangerous.

As Hancock was an Englishman, I asked the surgeons here about the operation. They all stated that it proved to be an absolute failure, and was utterly abandoned, and no one ever does it now.

The surgeons here seem to believe thoroughly in antisepsis in spite of Mr. Tate. I saw a surgeon here on an aseptic case. While he was operating, another one came in just from the outpatient department, and was asked to do the sponging, which he proceeded to do, and was allowed to continue without so much as washing his hands in ordinary water. *How was that for antisepsis?*

W. H. BAKER, M. D.,
(Of Lynchburg, Va.)

Analyses, Selections, etc.

Influence of Antitoxin in Laryngeal Diphtheria— With and Without Antitoxin.

Rosenthal (*Maryland Medical Journal*, July 30th, 1898,) gives his experience in sixty cases which occurred in his private practice, many of the cases being treated in consultation with fellow-practitioners. A most interesting feature of the paper is a chart giving, in tabulated form, full clinical data, including notes on diagnosis, prognosis, and the general characteristics of each case.

Rosenthal is a warm advocate of large initial doses, and when repetition is necessary, as it frequently is in laryngeal diphtheria, of repeating twice or three times in the first twenty-four hours, and always using a larger number of units than was contained in the preceding dose.

The claims made for the superiority of this method are well sustained by a high rate of recoveries, as will be observed by the following taken in substance from the report:

"I wish to record sixty cases treated with an itoxin, taken from my case-book in the order in which they were seen. They are such cases as every general practitioner meets, the only difference being that cases not showing marked laryngeal involvement have been excluded from the report. Twenty-eight required intubation, and of these eight died. Of the cases which did not require intubation, but one died. This death, I think, could have been prevented had intubation been performed, as death was due to suffocation from rapid exfoliation of the membrane. In a former paper, I made the assertion that all cases not requiring intubation should recover, and still hold to this opinion."

The mortality rate of the entire series is 13½ per cent., which is most gratifying, especially when it is remembered that many of the cases were what was formerly known as membranous croup, and yields a frightful death-rate under the best recognized old-time treatment.

In all the cases except four, concentrated antitoxin of the Philadelphia brand was employed, and doses from 2,000 to 4,000 units were used in the severest cases. In one case, which relapsed three times, a total of 16,500 units was employed. The child wore a tube seventy-two hours, and the case was extended over twenty days. The issue was favorable.

Book Notices.

Principles and Practice of Medicine. By WILLIAM OSLER, M. D., Professor of Medicine, Johns-Hopkins University, etc. *Third Edition, entirely Revised and Enlarged.* New York: D. Appleton & Co. 1898. Cloth. 8vo. Pp. 1181.

This edition is practically a new work—no less than thirty-one or two articles being entirely rewritten or else added to the former edition. In over twenty other articles, numerous additions have been made so as to require a practical recasting of most of them. Nervous diseases have been differently grouped, as compared with former editions—all with an eye to rendering the book of thorough practical use in diagnosis, description and therapeutics. Originally designed for the use of practitioners and students of medicine, "Osler's Practice" has become an authority in all matters of which it treats. It is the adopted text- or reference-book in many colleges of the country. It may not be that the experience of all practitioners is in agreement with the sometimes rather dogmatic expressions of opinion of the author; but it will be found on review there are grounds for the convictions expressed by the author. For instance, with reference to appendicitis, the author states "there is no medicinal treatment of appendicitis"—an expression which is entirely too sweeping in the experience of hundreds of excellent and successful physicians. It is not by any means that we are opposed to surgery in suitable cases. But we do believe that the day has come when greater surgical conservatism should be exercised with reference to barely suspicious cases of appendicitis. We refer to this special section of the work under notice because reckless surgeons are constantly referring conservative practitioners to the fact that no less a medical authority than Dr. Osler prefers to refer all suspected cases of appendicitis directly to the surgeon—instead of simply holding the judicious surgeon in consultation.

Medical News Visiting List. 1899 Philadelphia and New York: Lea Brothers & Co. 1898. Any style, \$1.25; thumb-letter index, 25 cents extra.

This popular List—wallet size, flexible leather cover, pocket and pencil—is in four styles: Weekly, dated for 30 patients; monthly, undated, for 120 patients a month; perpetual, undated, for 30 patients a week, and perpetual, undated, for 60 patients a week (without text). The first three styles contain 32 pages of text and 160 pages of blanks. In the text we find

methods for examination of urine; a table of important incompatibles; Sylvester's method of artificial respiration; table of eruptive diseases; poisons and antidotes; doses of remedies most frequently administered; 8 pages of "therapeutic reminders," and 5 pages (with illustrative plate) describing the ligation of arteries, etc. This is a well arranged *List*, and is neatly published.

Pocket Medical Dictionary. By GEORGE M. GOULD, A. M., M. D., Author of "Illustrated Medical Dictionary"; Editor Philadelphia Medical Journal, etc. *New Edition—Entirely Rewritten and Enlarged, including over 21,000 words.* Philadelphia: P. Blakiston's Son & Co. 1898.

The description given on the title page well defines the scope of this exceedingly useful and well made *pocket* dictionary. It gives "the pronunciation and definition of the principal words used in medicine and the collateral sciences, including very complete tables of arteries, muscles, nerves, bacteria, bacilli, micrococci, spirilli, and thermometric scales, and a dose list of drugs and their preparations, in both the English and metric systems of weights and measures." As a supplement, we find a table (of about 46 pages) of clinical eponymic terms. As this table is arranged, we do not see why it was not placed in regular alphabetical order in the body of the work; for many parties in seeking hastily the meaning of a term will fail to recall that there is a "*Supplement*." With the exception of this supplement as such, it is a well arranged book for doctors as well as students.

Text-Book on Pathology. By ALFRED STENGEL, M. D., Instructor in Clinical Medicine in University of Pennsylvania; Professor of Clinical Medicine in Woman's Medical College, etc. *With 372 Illustrations.* Philadelphia: W. B. Saunders. 1898. 8vo. Pp. 848. Cloth, \$4 net; half Morocco, \$5 net.

This is a new book. Its fulness of contents, completeness of description and profusion of illustrations commend it most favorably to the attention of the practitioner, as well as student. Originality was not so much the design of the author as the presentation of the subject of pathology from the standpoint of what has been proven, and is generally accepted as true by the best of authorities. General acknowledgment is made of the fact that free use has been made of all authorities at the command of the author for investigation. The effort of the author is to present Pathology in as practical a form as possible, and always

from the standpoint of the clinical pathologist. This is one of the new books that has come to stay before the profession; its merit entitles it to the highest rank; and its popularity is assured by the very practical clinical methods adopted in pointing out the items of pathological importance.

Practical Diagnosis. *The Use of Symptoms in the Diagnosis of Disease.* By HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. *Third Edition, Enlarged and Thoroughly Revised.* 8vo. 615 pages, with 204 engravings and 13 full-page colored plates. Cloth, \$4.75 net. Lea Brothers & Co., Publishers, Philadelphia and New York. 1898.

Few works in medicine have received such evidence of deserved popularity as Hare's *Practical Diagnosis*. This third edition is a thorough revision of the second, issued less than a year ago. After a chapter on "General diagnostic considerations," the "Manifestation of disease in organs" takes up some 400 pages, in which the meaning of symptoms and signs as expressed in them is traced to condition or disease that causes them. Then comes the part on "Manifestation of disease in symptoms," in which all such things as chill and fever, headache and vertigo, coma, convulsions, hicough, vomiting, regurgitation, dysphagia, cough and expectoration, pain, tendon reflexes and muscle-tone, speech changes, etc., are studied as bearing on the condition that gives rise to these perversions. This book is a very material help to any practitioner in times of need. The Indexes are well arranged, which helps one to make ready references either to the symptom that needs explanation or to the diseases that present such or such trains of symptoms. Whatever may be the desire of some for fuller details in the direction indicated, we have no book that presents them in such order as to show the diagnosis so clearly.

Manual of the Practice of Medicine. By FREDERICK TAYLOR, M. D., F. R. C. P., Physician to and Lecturer on Medicine at Guy's Hospital; Examiner in Medicine at University of London, etc. *Fifth Edition.* London: J. and A. Churchill. 1898. Philadelphia: P. Blakiston's Son & Co. 8vo. Pp. 1,002. Cloth. \$4.

This is a valuable work to the doctor, as also to the student. It fills many a blank in the larger text-books, and treats each subject in a plain, matter-of-fact way. Much repetition is saved by the thoroughness of the introductory chapters, which treats of definitions of disease, symptoms, signs, etiology, pathology, diagnosis,

etc., giving many practical hints as to each. The nature of infection is well discussed, as also immunity, prophylaxis, etc. The Sections on pyrexia, subnormal temperature, and on the treatment of pyrexia, are well written, and save much repetition in the body of the book. The work is quite complete as to the range of subjects presented—including even the more important skin diseases. That the work is in demand is shown by the fact that the first edition was published in 1890; it is the fifth edition now under notice. The merits of the book entitle it to this degree of popularity.

Brief Essays on Orthopædic Surgery. By NEWTON M. SHAFFER, M. D., Clinical Professor of Orthopædic Surgery, University of New York City, etc. New York: D. Appleton & Co. 1898. 12mo. Pp. 81. Cloth.

This is a collection of seven papers by the author published during the past fourteen years, and now presented in book form "at the request of a few friends." The Essays include "a consideration of the relations of orthopædic to general surgery, its future demands and its operative as well as its mechanical aspects, with remarks on specialism." The Essay on the "Present Status of Orthopædic Surgery," written late in 1883, needs remodelling to make it represent the "present status." The Essays, however, are all readable and entertaining—relating to orthopædic surgery generally, but without any special details.

The Physician's Visiting List (Lindsay & Blakiston's) for 1899. P. Blakiston's Son & Co., Philadelphia, Pa.

This Visiting List is now ready for distribution. It is sold by all booksellers and druggists. The present issue is the forty-eighth year of its publication—attesting in language stronger than we can use the popularity of this List. The "regular edition" is made in one volume for twenty-five and fifty patients a week at \$1 and \$1.25, respectively; also, in two volumes a year, from January to June, and from July to December, for fifty, seventy-five, and one hundred patients a week—prices, \$2 and \$2.25. The "perpetual edition" is the same as the regular edition, but without dates; for 1,300 names, \$1.25; for 2,600, \$1.50. In the "monthly edition," the patient's name need be written but once during the month. \$1. All editions have tucks, pocket and pencil. The "dose table" is compiled by Dr. Geo. M. Gould. Other valuable tables are introduced.

Diet for the Sick. By Miss E. HIBBARD and Mrs. EMMA DRANT, matrons at two large hospitals in Detroit. 103 pages; board sides, postpaid, 125 cents. The Illustrated Medical Journal Co., Detroit, Mich., Publishers.

This is the *Third Edition* of this handy and popular little bedside book. The recipes for sick dishes have all been tried, and are those largely used by the Detroit hospitals, where the two contributors of them served as matrons. Added to these are various diet tables, as for: Anæmia, Bright's disease, calculus, cancer, consumption, diabetes, dyspepsia, fevers, gout, obesity, rheumatism, uterine fibroids, etc., as given by the highest authorities. The booklet is intended to be given to the family by the physician, and for such purposes, one-half dozen will be sent, prepaid, on receipt of \$1.00.

Diseases of Women. By E. C. DUDLEY, A. M., M. D., Professor of Gynecology, Northwestern University Medical School; Gynecologist to St. Luke's Hospital, Chicago, etc. With 422 Illustrations, of which 47 are in Colors, and two Colored Plates. Lea Brothers & Co., Philadelphia and New York. 1898. 8vo. Pp. 637. Cloth, \$5.00 net; leather, \$6.00 net.

This "Treatise on the Principles and Practice of Gynecology" now makes its first appearance for professional favor. The surgery of the work unquestionably commends itself; it includes the latest of the most approved technique. All matters of diagnosis are well discussed, though practically many cases present themselves in which the diagnosis has to be made after the operation. The etiology of diseases peculiar to women is plainly discussed, and great stress—though not more than the facts warrant—is laid on the improper use of the corset, of heavy or multiple skirts, etc. From the standpoint of the surgeon, this book must assume a leading position; but from the standpoint of the every day family physician, it seems to us that too little effort is made to suggest to him a line of therapeutics which may help him. We are by no means opposed to surgery, when such is demanded; but there is undoubtedly too popular a turn among surgeons to do away with medical therapeutics, and resort prematurely to surgery. It is not true that all of the ailments peculiar to women, and that rightly come under the head of gynecology, are due to improper dress, or abortion, or laceration, or other physical causes. Many of them are of constitutional origin, and are remediable by the use of suitable tonics, alteratives, etc. If more prominence was given to the value of local means of treatment in suitable cases, and to the value of

medicines in many other cases, then would we be able to say that this is one of the most perfect books on diseases of women. From the operator's standpoint, we know of no text-book that gives the surgeon a more complete and perfect technique.

Diet and Food. By ALEXANDER HAIG, M. A. and M. D., Oxon., F. R. C. P., Physician to the Metropolitan Hospital, and the Royal Hospital for Children and Women, etc. *With five Illustrations.* London: J. & A. Churchill. 1898. (For sale by P. Blakiston's Son & Co., Philadelphia.) 12mo. Pp. 88. Cloth, \$1.00 net.

This monograph comes in good time as a thoroughly readable work by any one interested in chemical physiology of digestion and nutrition. There is immense ignorance on this subject which results in prejudice and superstition which it is the purpose of this book to remove. Diet and food are considered "in relation to strength and power of endurance, training and athletics." Among other striking sayings of the author is that "in diet lies the key to nine-tenths of the social and political problems that vex our nation and time." This book is of great value to members of athletic teams, and it contains so many valuable suggestions for physicians as well that we would be glad to see its popularity widely extended by advice of family physicians.

Surgical Complications and Sequels of Typhoid Fever By WILLIAM W. KEEN, M. D., LL. D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. *Based upon Tables of 1700 Cases Compiled by the Author, and Thomas S. Westcott, M. D., Instructor in Diseases of Children, University of Pennsylvania, etc. With a Chapter on the Ocular Complications of Typhoid Fever,* by GEORGE E. DE SCHWEINITZ, A. M., M. D., Professor of Ophthalmology, Jefferson Medical College. and as an Appendix, *the Toner Lecture, No. V.* Philadelphia: W. B. Saunders. 1898. Cloth. 8vo. Pp. 381. Price, \$3.00 net.

Among the surgical complications of typhoid fever, the author names gangrene, abscesses, hematoma, affections of the joints and bones, of the thyroid gland, larynx, pleura, lungs and heart, of the œsophagus and stomach, of the liver and gall bladder, of the spleen and sexual organs, cerebral complications of typhoid fever, otitis media in the fever, typhoid parotitis, etc. Of course intestinal perforation receives a full share of consideration. In fact, ever since abdominal section began to be popular among surgeons for so many varying conditions, sur-

gery with reference to bowel perforations has been advocated. The work before us is an almost perfect record of surgical complications, and the results of operations reported are surprising. The author himself has taken an active part in bringing about surgical relief in a number of the cases that formerly would have proved fatal. It is to be regretted that record is not made of all such cases of complications of typhoid. Operations for typhoid perforations of bowel have several times been done in this city during the past few years.

The subject of the Toner Lecture, No. V, relates to the "surgical complications and sequels of the continued fevers," delivered by Dr. Keen in 1876.

The book is one that will prove of great service both to the physician and surgeon.

Editorial.

Solvent Action of Buffalo Lithia Water on Urinary Calculi.

Abundant clinical experiences and observations prove the remarkable property possessed by Buffalo Lithia Water (Spring No. 2), of dissolving, or so disintegrating urinary calculi—both renal and vesical—as to permit such of the particles as are not thoroughly dissolved to pass *per urethram*. Oftentimes the calculi are reduced to grains of sand, and thus are washed out through the urinary passages.

Time and again such particles of calculi have been subjected to chemical analyses to determine their composition. In 1896, Dr. R. Ogden Doremus, the able Professor of Chemistry in Bellevue Hospital Medical College, of New York city, examined five collections of disintegrated urinary calculi discharged by as many patients while under treatment by Buffalo Lithia Water, Spring No. 2. These disintegrated fragments consisted, for the most part, of *uric acid*, triple phosphate, ammonium urate, calcium oxalate, etc.

A year later, Dr. A. Gabriel Pouchet, Professor of Pharmacology, etc., of the Faculty of Medicine, of Paris, chemically examined eight specimens discharged by different patients under treatment with Buffalo Lithia Waters. These collections were mostly in the form of porous fragments or grains of sand of various sizes, showing the disintegrating or solvent action of the water of Spring No. 2.

About the same time (February, 1897), no

less eminent authority than Dr. John Attfield, of London, Eng., (whose work on *Chemistry—General, Medical and Pharmaceutical*—has been a favorite text-book for years in American as in English schools and colleges), examined “five specimens of disintegrated calculi, which evidently were fragments of larger calculi passed by patients while drinking the waters” of these springs. These specimens consisted, respectively, of “crystalline grains of ammonio-magnesian phosphate;” “amorphous lumps of a mixture of ammonio-magnesian phosphate and calcium phosphate;” “cocentric layers of uric acid;” the fourth specimen was “mainly uric acid with a little ammonium urate, and the fifth was “uric acid.”

To these reports, we have now to add a report made last month (October 11, 1898), by the able and distinguished Professor of Chemistry in the University of Virginia, Dr. J. W. Mallet. His report relates to an examination of four collections of disintegrated urinary calculi, passed by patients under treatment with Buffalo Lithia Water, Spring No. 2. “Collection No. 1,” representing three renal calculi—two of which looked “as if acted on by a solvent”—consisted of 78.93 per cent. of uric acid, and 17.55 per cent. of ammonium urate, etc. “Collection No. 2,” representing vesical calculi, consisted of 71.32 per cent. of uric acid, and 20.26 per cent. of calcium oxalate, beside some urates, phosphates, etc. “Collection No. 3”—the interior portions being “porous, presenting the appearance of having been acted on by a solvent liquid”—consisted of 90.68 per cent. of uric acid, and 7.10 per cent. of ammonium-magnesian phosphate. “Collection No. 4” consisted of “a fine, sandy powder”—disintegrated calculous material—passed in large quantity—“several ounces in all”—by a patient using Buffalo Lithia Water. Analysis of this “fine, sandy powder,” showed it to be mostly phosphatic (64.93 per cent. of ammonium-magnesian phosphate, and 21.65 per cent. of calcium phosphate)—there being only 3.73 per cent. of uric acid in this specimen.

With clinical evidences so abundantly given by able practitioners from all parts of the country, testifying to the solvent action of Buffalo Lithia Water upon urinary calculi—renal as well as vesical—confirmed by the most eminent and conscientious chemists that France, England and America can furnish—there is no longer any reason for holding back the free administration of these waters to patients whose symptoms indicate the presence of stone or gravel in the urinary passages.

In this note, we have referred only to one

virtue of Buffalo Lithia Water. But in practice it meets so many indications that it would be difficult to enumerate them all. Perhaps its most brilliant results are to be noted in cases of gout and uric acid diathesis, and conditions dependent on them. Numerous able clinicians have used it with marked benefit in cases of albuminuria, chronic Bright's disease, in post-scarlatinal nephritis, in various gastrointestinal disorders, etc. But the object of this writing was only to give the proofs of the solvent action of Buffalo Lithia Water, Spring No. 2, upon uric acid and other renal and vesical calculi.

Dr. Mallet, in concluding his report, suggests the following explanation of the action of Buffalo Lithia Water in calculous cases, which seems altogether plausible:

“It seems, on the whole, probable that the action of the water is primarily and mainly exerted upon uric acid and the urates; but that when these constituents occur along with, and as cementing matter to, phosphatic or oxalic calculous materials, the latter may be so detached and broken down as to disintegrate the calculus as a whole in these cases also, thus admitting of urethral discharge.”

The Libel Suit of William Smith, Osteopathist.

We take pleasure in reprinting the following from the *Medical Age*, October 25, 1898, in the earnest hope that the publisher of the *Medical Age*, Mr. William M. Warren, of Detroit, Mich., may secure the combined moral support and commendation of the profession:

Dr. Wm Smith, Osteopathist, has a grievance against the *Medical Age*, and demands \$25,000 damages. The ground of his plaint is an editorial, reflecting discredit on Dr. Smith, on the *Journal of Osteopathy*, and on osteopaths in general. The subject is set forth editorially in the *Medical Age* of September 26, 1898, and a reprint of this editorial will be sent on application.

I need hardly assure any one familiar with the past record of the *Age* that William Smith, M. D., D.O., has a large contract on his hands. His quest for damages is likely to prove futile, and his armor will need patching if it is to withstand the hard legal knocks that will be showered and battered upon it before he touches one dollar of the *Age's* money.

Pray do not fancy, however, that Wm. Smith and osteopathy are to be lightly dismissed with the contempt that they merit. There is no use in blinking the fact that the lack of efficient organization amongst reputable medical men has permitted the whole brood of

quacks and charlatans to flourish apace. By the strangest irony of fate, osteopathy, in some respects the most grotesque of medical aberrations, has well illustrated Lecky's dictum that a small but cohesive and determined minority can exert a political influence wholly disproportionate to its real weight and numbers.

In Kentucky, thanks to the resolute leadership of a handful of physicians, ably guided by Dr. Mathews, the osteopaths have been driven from the State. Not so, however, in Missouri or—I blush to say it—in Michigan, Vermont, North Dakota, South Dakota, Illinois, Colorado, and North Carolina (*American Medico Surgical Bulletin*). In these more lax and indulgent communities, osteopathy boasts its numerous followers, its "schools of instruction," its periodicals of propaganda, its political influence in legislation, its shameful immunity from the penalties by which society properly seeks to rid itself of quackish parasites.

Emboldened by its success, osteopathy now enters the courts and offers battle to a medical journal which disputes its respectability. The challenge is accepted. In the interest of science, in defense of ethical and honorable medicine, in defiance of a quackery that constitutes a deep disgrace to an enlightened age, and a stain on the communities which give it shelter, the *Age* proposes to maintain its position, and to continue its denunciations of the ignorant pretenders who fatten on the sufferings of the credulous and confiding.

Having put my hand to the plow in this uncompromising fight with quackery, I beg leave to assure you that there will be no turning back.

I need not point out the bearings this contest must have on the interests of legitimate medicine.

Western Surgical and Gynecological Association.

The eighth annual meeting of the Western Surgical and Gynecological Association will be held at Omaha December 28 and 29, 1898. Titles of papers from some of the leading surgeons of the West are already in the hands of the secretary, and the coming meeting promises to be the most interesting yet held. The local committee of arrangements at Omaha is actively preparing for the entertainment and comfort of those who attend. Surgeons and gynecologists, and those interested in the progress of these specialties, are cordially invited to affiliate themselves with us. The secretary will be glad to send application blanks. Titles of papers should be sent to the secretary, Dr.

Geo. H. Simmons, Lincoln, Neb., as soon as possible, but not later than November 20, to insure a place on the program. D. S. Fairchild, President, Clinton, Ia.

The North and South Carolina and Virginia Tri-State Medical Society.

A temporary organization (with four members from South Carolina, twenty-eight from North Carolina, and twenty-nine from Virginia) was effected at Virginia Beach, Va., September 1, 1898. Dr. W. H. H. Cobb, of Goldsboro, N. C., chairman; Dr. H. H. Dodson, of Milton, N. C., treasurer, and Dr. Paulus A. Irving, Richmond, Va., secretary. A committee from each of the three States was appointed on permanent organization, and it is expected that either Raleigh or Charlotte, N. C., will be selected as the place for the first meeting. The exact time and place will be published, together with an interesting program—a number of papers from distinguished doctors having been promised.

Obituary Record.

Dr. J. St. Pierre Gibson,

A practitioner of distinction in Staunton, Va., since the war between the States, died at his home after a lingering illness, October 31, 1898. He joined the Medical Society of Virginia in 1872, when the session was held in Staunton, and for years was an earnest active member.

Dr. James D. Moncure

Died at his home in Williamsburg, Va., November 10, 1898, his remains being interred in Hollywood Cemetery, Richmond, Va. Immediately after the war between the States, he began practice in Richmond, Va., where he soon became Physician in Chief of the then Church Infirmary, afterwards changed to Retreat for the Sick. Then he established Pinel Hospital in Richmond, Va., which he conducted with skill and benefit to the State. In 1887, he was chosen Superintendent of the Eastern [Va.] State Hospital for the Insane, which position he held with great credit until his death. He was one of the charter members of the Medical Society of Virginia in 1870, of which he remained a Fellow, and attended a number of the sessions. His death was due to typhoid fever.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 3, No. 17.
Whole No. 65.

RICHMOND, VA., DECEMBER 9, 1898.

\$2.00 a Year.
10 Cents a Copy.

Original Communications.

INFECTIVE INTRA-CRANIAL COMPLICATIONS OF AURAL DISEASE—PROGNOSIS AND TREATMENT.*

By ANDREW TIMBERMAN, Columbus, Ohio.

Since the chief complications of aural disease occurring within the cranial cavity are of such recognized seriousness, it is with not a little trepidation that the writer places himself on record as looking at them from a somewhat optimistic point of view. This trepidation is enhanced by the impression that the general profession has heretofore received with some reluctance the suggestion of operative treatment of the aural disease as a prophylactic procedure. Yet greater reluctance is manifested to the measures proposed in the treatment of some of the complications, especially meningitis. But let us not forget that the great advances in medicine have been made by men who have never ceased to hope for and to attempt the cure of affections which hitherto had been considered incurable. Vaccination was with difficulty introduced; laparotomy was at first inveighed against, and, in fact, nearly every radical advance has been compelled to maintain its right in the face of the most violent opposition.

Aurists are now having their turn in the wheel of difficulty in securing the recognition of the importance of certain aural affections and their sequelæ, and in having measures adopted for their prophylaxis or cure. The chief of these complications are meningitis, abscess, and sinus thrombo-phlebitis. All are of infective origin, and represent the result of the dissemination of organismal peccant matter from a primary focus of pyogenic infection, situated usually in the middle ear; but consideration of either the prognosis or treatment, to which this paper is confined, is so intimately

connected with the etiology that a discussion of the one to the exclusion of the other is neither practicable nor desirable.

It must be clear to every one that an infective disease which owes its increasing dangers to a primary focus, must in time terminate fatally, unless the causative element be eliminated. In each of the above complications, there is a time when the removal or cure of the primary aural disease would result in the cure of the sequela, or at least prevent its threatened materialization. To admit this much brings them at once into the category of preventable diseases, and stamps their prophylactic treatment with the greatest importance.

As to just when the primary aural disease—and this is usually a chronic suppurative affection, seldom an acute one of any character—will pass its local boundaries and invade the cranial cavity, no one may estimate. The danger of bacterial invasion of the encephalic tissues depends upon the virulence of the infection, the conditions for the growth and development of the specific agent, and the susceptibility of the invaded tissues or structures to the influence of bacteria. In the middle ear all the conditions are favorable to germ growth and development. Once safely landed in the remote air spaces of this organ, they are secure from the reach of local applications, and readily multiply in the even temperature and subsist on the rich pabulum thrown out by the limiting mucous membrane.

Given a careous or necrotic lesion in the middle ear and a perforated membrana tympani, an unobstructed discharge must be regarded in a favorable light; for the same lesion, with obstructed outflow, would speedily give rise to alarming symptoms, and death itself might occur from pus forced into the cranial cavity or retained there because its outlet had, under the influence of treatment or other cause, closed; for there is no doubt in my mind that apparently successful treatment of the aural disease may give rise to very serious and grave conditions if one of the

* Read before the Ohio State Medical Society, Columbus, Ohio, May, 1898.

complications be present, though not manifesting itself by any pathognomonic symptoms. The following pieces of a case is apropos:

Mary W., a healthy, robust girl of 15, consulted me in September last regarding a double suppurative otitis media chronica, dating from an attack of scarlet fever when 5 years of age. After examination, the parents were frankly informed that treatment would probably be useless without an operation. This was objected to, and I was engaged to treat the case as best I could without surgical intervention. On December 8th, 1897, the right ear was dry, the first time in ten years, and remained so until January 24th, 1898, on which day patient came into my office flushed and excited, suffering intense pain, radiating over whole right side of the cranium; dizziness; temperature 103; coated tongue; anorexia, and most obstinate constipation. January 27th, the whole condition of patient changed. A most profuse discharge set in, the pain ceased, temperature became normal, constipation was relieved, appetite returned, and no inconvenience apart from the discharge vexed her. The quantity of pus, non-involvement of the mastoid, high temperature, intense pain, and obstinate constipation leave no doubt in my mind that the outlet of an epidural abscess had, under the influence of treatment, closed, and that the gradually accumulating pus had occasioned the alarming symptoms, which were only relieved when an opening had again been forced for the pus.

A thorough knowledge of the tendency of primary aural disease to induce these serious complications, and early detection of the latter, coupled with bold and thorough surgical treatment, are the cardinal points upon which to predicate a favorable prognosis. It will be much more serious when the proper treatment has been delayed, as it so often is, unfortunately, until vital parts of the encephalon are invaded or the general system affected. But I wish to emphasize the fact that there is some chance for recovery in even the extreme cases. A cerebral abscess, unnoticed or neglected, may run its first stage marked by cessation of the otorrhœa, pain, vomiting, sometimes rigors, slightly accelerated pulse, and abnormal temperature, and pass into the second stage—in which, as a rule, the surgeon first sees it—marked by great prostration, dulled senses, slow cerebation, partial paralyses, optic neuritis, myotic pupils, slow pulse and respiration, subnormal temperature, and obstinate constipation—and recovery may yet take place. Nay, more, cases are on record, and are more and

more frequently reported, in which the clinical picture of a patient in extremis is presented—livid face, coma so deep that an anæsthetic is not required, hurried and shallow respirations, temperature 102–104, pulse 120–140, convulsions, tetanic seizures and dilated pupils—such cases as these even will occasionally recover after an operation and live to bless the surgeon who gave him the benefit of the only chance he had.

In these extreme cases, when treatment is successful, the changes indicative of improvement come quickly. The temperature falls to or near the normal point, pulse becomes steadier, fuller, and slower, sensation returns, pupils contract, convulsions cease, and the mind becomes clear and active. The optic neuritis persists some months, but finally clears up, leaving vision unimpaired.

The smaller the abscess, the more remote its location from vital parts of the encephalon, and the presence of a capsule are favorable points in cases where an operation is neglected or rejected.

Sinus thrombo-phlebitis may, in very rare cases, as is proven by post mortem examinations, recover even without treatment; but the affection uncombated usually runs a speedy course, terminating in death. If taken early, before the thrombus becomes infected and degeneration and disintegration take place, with infarctions in the internal organs, the chances for recovery are good, provided a thorough eradication of the morbid tissues is obtained. This procedure offers the only, though distant, hope in those cases where infection has passed into the general circulation and produced grave lesions in internal organs, and should be resorted to.

The most frequent, as well as the most fatal, complication attendant upon aural disease is meningitis. It differs in no respect from the same affection referable to other causes, except that it is more likely to be localized and is usually purulent. To the fact that it is often localized is due the favorable prognosis with which aurists are learning to regard this form of meningitis. Generalized meningitis of an infective, purulent character no one regards as curable. But localized meningitis we do regard as operable, with at least equal chances for recovery. With modernized methods of examination, the medical fraternity is not so skeptical as regards the diagnosis of meningitis in a recovered case as we were ten years ago. Cases do occur and recover whose clinical histories coincide with those whose diagnosis post mortem is meningitis. It is unfair to assert

they are not. Besides, during operation, it may be possible to demonstrate the pathological condition. Prof. Macewen was the first to begin, if not the first to suggest, the operative treatment of meningitis, and half of his cases recovered. Begun before the peccant infective matter is widely disseminated throughout the cerebro-spinal system, surgical intervention with this formerly invincible foe to the *ars medendi* will often insure its capitulation.

The treatment of infective intra-cranial complications of otitis origin is prophylactic and surgical—prophylaxis having as its aim the prevention of a primary focus of pyogenic infection in the aural apparatus of the temporal bone, and surgery its removal when found.

The family physician is, of necessity, the chief agent in the prophylactic treatment of these cases. He is first consulted regarding the acute otitides occurring as sequelæ of other diseases, and upon his careful treatment of them will depend their cure, and thereby the prevention of a chronic affection, the most prolific causative factor of these intra-cranial diseases. He is, also, most frequently consulted regarding the chronic otitides themselves, and these should secure his most earnest attention, as they supply the microbic organisms which incite the complications. Faithful attention and service should be given, and an endeavor should be made to cure these by the usual methods. If after several months no improvement is noted, the patient should be informed of the seriousness of the affection, and some measures adopted calculated to eradicate the infective nidus; for no one can know at what moment or under what conditions circumstances may arise which will result in the dissemination of the infective material throughout the entire cerebro-spinal system, or into the general circulation.

Surgical treatment consists in the removal of the ossicles, and in partial or total ablation of the mastoid as a cure for the primary aural disease, and as the first step in the surgical treatment of the complications themselves.

The frequency with which the ossicles are secondarily affected, and the percentage of cases in which their extraction is found unavailing, constrains the aurist to operate more and more frequently through the mastoid in order to eradicate the infective nidus, while the presence of one of the above complications demands the mastoid operation as the first step in its successful treatment. From April, 1895, to April, 1897, 219 mastoid operations were done in Prof. Schwartz's clinic, while in the same period there were only 20 extractions of the

two external ossicles, one-third of which were done in the second year.

The anatomical specimens exhibit before the Society will demonstrate better than words can express just what should be accomplished in ablation of the mastoid, and how it should be done. The following description is therefore purposely wanting in the scientific details of the operation as well as all forensic discussion of the relative importance of the anatomical structures and surgical procedures.

The partial ablation of the mastoid, though a surgical procedure, is done as a prophylactic measure, affording an outlet to the pent-up infective products, and thus preventing their dissemination inward with resulting intra-cranial involvement. In acute cases of mastoid involvement this will relieve the alarming situation, and complete recovery will often result. But in the chronic cases, where the lesion is situated deep in the middle ear, or where one or more of the above complications exist, total ablation is necessary for the cure of either the primary disease or its sequelæ.

The partial operation has for its object the opening into the mastoid antrum, and is the first step in the complete operation which has as its object the obliteration of the middle ear by transforming its numerous spaces into one common cavity.

The patient must be prepared, as is usual, for a major operation, and a general anæsthetic is necessary. Three assistants and a trained nurse are required. After the preliminary curvilinear incision is made, all hæmorrhage controlled, and, as planum mastoideum well exposed, the ablation of bone is accomplished by means of a mallet and chisels. The two landmarks are the linea temporalis, marking the inferior boundary of the middle cerebral fossa, and the spina supra meatum, marking the level of the floor of the antrum.

In opening into the antrum, several precautions must be observed or several dangers averted. The sigmoid sinus is usually so situated that sufficient space is allotted for the funnel-shaped opening to be made in the mastoid; often, however, it is so near the posterior wall of the external auditory meatus that it is impossible to proceed in the usual manner, but the posterior wall must be first removed. Wounding this vessel constitutes the greatest danger of the operation, though wounding of the facial nerve or penetrating into the cranial cavity or into the internal ear structures are fraught with dangers, and are to be avoided.

On the completion of this first step in the operation, there is simply the funnel-shaped

opening into the antrum with a ridge of bone intervening between it and the external auditory meatus. No encroachment upon the tympanic cavity, its contents, or the aditus ad antrum is made. If perforation of the membrana tympani be present, as is usually the case, irrigation of the middle ear is sometimes practiced, but should be discountenanced, as no one may say that an erosion of some portion of the osseous wall has not occurred exposing the membranes of the brain; and if this exists, irrigation increases the danger of pus finding its way into the cranial cavity. It is, therefore, better merely to cleanse with pledgets of gauze. To complete the operation, the opening into mastoid is lightly tamponed with gauze, the periosteum and soft parts are replaced, and upper and lower portions of the external wound sutured, leaving central part open to facilitate dressing and permit of drainage.

The operation just described is known as the "typical" mastoid operation, or Schwartz's method of opening the mastoid. Its success, under given conditions, has justified its application; its failure, under given conditions, has resulted in that more perfect procedure styled the "Schwartz-Stacke," or "radical" operation.

This is done as follows: After opening into the antrum, the membranous external auditory meatus is separated from the posterior wall, the ridge of bone is removed, as is also the ossicles (the hammer and anvil), and interposing spicules, and the whole surface of the now single cavity of the middle ear made smooth, and freed from carious processes. The posterior membranous wall is then slit up, longitudinally, as far as the concha, and then again at right angles to this, thus securing two flaps, which are turned back to prevent cicatricial contraction of the meatus as well as aid in epidemization of the cavity. Cavity is then lightly packed with gauze, both from the meatus and posterior opening; stitches are inserted in the upper and lower angles of the latter, and head well bandaged.

Following this radical exenteration of the middle, such measures as will relieve the complications will be resorted to. Epidural abscesses occur most frequently over the tegmen tympani et antri, or in association with sigmoid sinus affections in the cerebella fossa, and are best relieved by removing the bone intervening between them and the new-formed cavity in the mastoid. Temporo-sphenoidal abscess is best reached by trephining about one inch above the external auditory meatus according to the rules laid down in general surgery. Cerebellar abscess is best attacked from the

posterior and outer aspect of the sinus, since here drainage is better and the bone is thinner. Of course, localizing symptoms in abscess will often be of paramount influence in the determination of just where an opening into the cranial cavity shall be made.

Localized meningitis occurs most frequently at those points near which extra and intradural abscesses are wont to be found, and much the same surgical procedures are indicated—viz., ablation of the mastoid and intervening cranial bone, incision of the membranes, and establishment of drainage.

Sinus thrombo-phlebitis is best attacked after performing the radical operation by chiseling away the mastoid until the sigmoid sinus is exposed. If this vessel be found thrombosed, it should be slit up, its contents removed, and the vessel packed with gauze. If the internal jugular vein is thrombosed at its upper extremity, ligation of that vessel may be indicated—if possible, above its communication with the common facial vein, so as to prevent a possible extension of the process by this channel to the ophthalmic veins, and thence to the cavernous sinus. The writer once saw this occur.

If there is one point in the care of these cases worthy of special emphasis, that one point is the after-treatment. No operation in the whole domain of surgery, which I can now recall, demands as much special skill and experience to properly conduct the after-treatment as does the radical mastoid operation; and this statement will be best and most heartily attested to by those who, after a ripe experience in general surgery, have taken up the special work in aural surgery. The operation done, the surgeon's work is not half done. To restrain excessive granulation, to guard against the formation of synechiæ, to prevent cicatricial contraction of the auditory meatus, and to secure complete epidemization of the whole cavity, and yet retain or improve the hearing function, presents a problem that none but the experienced should attempt; for be it understood that in the majority of these cases, not only is it the concern of the surgeon to cure the local disease, but to retain as far as practicable the special sense of hearing.

I may be charged with optimism in the consideration of the prognosis and treatment of these grave and serious lesions affecting some portion of that cavity which contains the most vital parts of the human organism, but it is an optimism born of a conviction which in turn is begotten by personal experience and observation, as well as by study. Everywhere these cases are occurring because of neglect of

the primary otitic disease, and many a fatality supervenes because a pessimistic view pre-judges a futile result, and withholds the surgeon's hand when it might not yet be too late.

106 East Broad Street.

SOME OF THE OCULAR MANIFESTATIONS OF URICACIDÆMIA.

By JOHN DUNN, M. D., Richmond, Va.,

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At this period of medical history, when the physician is almost always justified in considering constantly recurring headaches, for whose production no demonstrable pathological condition can be found, as being in some way connected with the eyes, patient as well as physician is learning more and more to turn to ophthalmology for relief. The response of this branch of medicine has been the invention of numerous instruments of precision, through whose aid the refractive and muscular errors can, in the large majority of cases, be accurately determined and appropriate treatment given.

Sending a patient to an oculist does not, however, render the eye in the performance of its functions independent of the rest of the body. The eye has nerves as have the hands or feet; it is worked by muscles just as are the legs and arms, and through its tissues flows the impartial blood of the general circulation, which, under conditions more or less imperfectly understood, allows muscular action to be performed with varying degrees of comfort or discomfort. It thus not infrequently happens that a patient, whose refraction can be accurately measured, fails to find, even where the use of glasses is indicated, the relief which he is promised and rightly expects. The same holds true in regard to muscular errors, our successful elimination of which is not unfrequently followed by persistence of the headache and asthenopia which we had believed due to these errors—all of which shows clearly that the purely mechanical problems of refraction and muscular error as involved in the prescribing of glasses and tenotomies are not the only ones the solution of which the patient has a right to demand at the hands of the ophthalmologist. And among the many general conditions which lessen the efficiency of the proper glasses and cause the oculist many unhappy moments in the presence of slight degrees of muscular imbalance is to be men-

tioned uricacidæmia, whose existence renders difficult the easy and rapid performance of the delicate muscle combinations required in the act of reading or writing, and causes eye-strains with its sequelæ. The study of uric acid asthenopia, eyeache and headache in the light of the teachings of Haig, is one of no little interest, so accurate have been his observations and so interesting his deductions—and the recognition of the possibilities of this important factor in many a case of so-called eye-strain will often save much time which is now wasted by the oculist hoping for the impossible from glasses and tenotomies. The first ocular manifestation of uricacidæmia to which I wish to call attention is *asthenopia*, as evidenced by sensations of pain in the eyeball, and followed not infrequently by neuralgia about the forehead, then headache, which may or not be accompanied by nausea and mental depression; and which may, if the eyes be not forced to do close work, pass away in a night or in forty-eight hours. These headaches are sometimes accompanied by attacks of momentary hemianopsia, sometimes by faint flashes of light, and often by disinclination to bodily exertion. Let us take the case of Mr. A., aged 56, under treatment of his physician for severe lithæmia. His general condition was, when I first saw him, one of considerable depression, the result in part, he thought, of his inability to use his eyes without causing in them pain which was certain to be followed by severe headache and further despondency. This condition of affairs had come on within the past year. Examination of Mr. A.'s eyes revealed in the fundus nothing abnormal, besides slight sluggishness of the retinal venous outflow, as evidenced by some enlargement of the veins. Mr. A. had some astigmatism, which, while oblique, was slight in amount, and for which he was wearing the proper correcting glasses. In this case general treatment was able to afford very considerable relief.

Or again, let us take the case of Mr. C., aged 35, whose excessive meat diet and sedentary life renders the excessive accumulation of uric acid in the blood comparatively easy. His muscular and refractive errors are slight and easily corrected. Whenever, after a day spent largely in writing, he eats a supper at which are served meats and wine, he almost invariably has on the following day eyeache and headache, both of which will, as a rule, pass away in twenty four or forty-eight hours, if he can spend the day out of doors. Unfortunately, his occupation is such that he is obliged to remain indoors and do much reading and wri-

ting; thus it comes to pass that his eyeache increases, his asthenopic symptoms grow worse, and his headache may last for several days. The temporary excess of uric acid in the blood makes the working of the ciliary muscle difficult, and induces eye-strain, which continued close use of the eyes increases, and so prevents the disappearance of the eyeache and headache, which were originally due to the uricacidæmia. As the condition of collæmia produces undue difficulty of muscular action, so under certain conditions, when the uric acid is from any cause driven from the circulation into the tissues, it produces irritation or inflammation, as, for example, the indefinite pains of muscular rheumatism and the inflammatory swellings of acute articular rheumatism, the gouty twinges and the acute gout. The eye shows from time to time both the irritation and the inflammation caused by uric acid. With rheumatic iritis all of us are more or less familiar, the attacks sometimes occurring and recurring in cases of rheumatoid arthritis, presenting a history which, if once intelligently noted, is never to be forgotten. Sometimes the uric acid irritation—partly in the brain, partly in the eyes—gives rise to a choreic affection of the lids and to some ciliary spasm presenting an interesting picture, of which the following case may serve as an example: Miss A., aged 8, was brought to me by her physician with the request that I should examine her eyes and see whether their condition, refractive or muscular, might have any causal reflex-connection with the then present very annoying chorea from which she was suffering, and which exhibited itself chiefly in a frequent spasmodic opening, to their fullest extent, of the mouth and eyes. About ten months previously she had developed chorea. She was taken from school and sent to the country, where, after a few weeks, the manifestations of the disease disappeared. About three weeks before I saw this little girl she had, for three or four days consecutively, partaken rather freely of the good things of Christmas, with the result that the chorea returned. Among other symptoms she had complained that her eyes hurt her, that she was unable to read with her right eye, and saw very poorly with her left. Examined with a test-card, she gave at first V. O. D. = $\frac{1}{8}$; O. S. = $\frac{1}{2}$. The test letters were changed, and V. O. D. sank immediately to $\frac{1}{16}$. My first idea was that the ciliary muscles were involved in the choreic spasms. Atropia (gr. iv- $\frac{3}{4}$) was instilled into her eyes twice, at intervals of an hour, and two hours after the second instillation the eyes were again examined. Owing to

the frequently-recurring facial spasms, retinoscopic measurements were not satisfactory; enough, however, could be made out to know that the refractive error, if any, was small. Placed before the test-card, the V. O. D. was $\frac{1}{8}$, while that of O. S. was only $\frac{1}{16}$. Weak plus and minus glasses gave at different times different results; sometimes making no change, sometimes slightly increasing V.; sometimes giving O. S. one letter in $\frac{1}{8}$, sometimes another, sometimes the first and last letters, again only the middle two.

Suddenly the vision rose for a moment to $\frac{1}{8}$. Instillations of atropia three times a day for three days were now ordered. At the end of this time, retinoscopy showed the eyes to be emmetropic; distant vision was now perfect for both eyes together or for either singly. The muscle balance was normal. The facial spasms had in the meanwhile greatly diminished in severity and gradually disappeared after some weeks. The patient was at the time under the treatment of her physician for "acid urine and dyspepsia." In this case we have, besides the ciliary spasm, amblyopia and more or less photophobia, also choreic spasms of the lids. This picture is no new one—simply illustrating the already well-known relationship between one form of chorea and rheumatism, between chorea and uricacidæmia.

The next picture of this series was seen in the case of Miss C., sent to me with the comment that she was under treatment for the uric acid diathesis. In addition to eyeache, headache, asthenopia, photophobia of varying degrees, the patient complained of flashes of colored lights before her eyes. These were frequent enough to cause her no little alarm. These flashes of light may possibly be due to irritation of the sustaining fibres of the retina, and as they occurred in the presence of uricacidæmia, it is not improbable that the uric acid is the cause of the irritation. In this case, many large uric acid crystals were present in the urine at the time of the examination of the eyes. Later on in life, the asthenopia and photophobia may exist as almost constant symptoms, and so severe as to forbid the use of the eyes in any close work.

As examples of this, may be mentioned the case of Mr. B., aged fifty, gouty; has, without visible evidences of intraocular changes other than some venous obstruction, such persistent and annoying asthenopia with photophobia, that reading is practically impossible, and he is compelled to spend much of his time in a dark room. In this case, the greater part of the trouble is probably in the ciliary region;

while in the case of Mr. D., aged sixty-four, who is also gouty, there appear at times, for instance, when he stoops over or strains at the stool, flashes of colored lights before his eyes. In this case, we have under the ophthalmoscope marked evidences of degeneration of the retinal arteries, and the cause of the flashes is probably to be sought in the disturbances caused by congestion in the already imperfect circulation through these diseased vessels.

Later still in the history, the patient may be annoyed by specks before the eyes, the result of floating bodies in the vitreous. These, it seems to me, may have again a double source, either from the region of the ciliary processes, in which case we frequently find opacities of the lens; and, secondly, from the diseased retinal or choroidal vessels. It has been remarked that we comparatively rarely see the retinal hæmorrhages which unquestionably frequently take place at the time of the formation of the future vitreous opacity. This may be explained probably by the fact that the patient does not come for treatment as soon as the opacities appear as floating bodies before the eyes. It has been stated that gouty retinitis, chorio retinitis and neuro-retinitis never lead to blindness. They may certainly cause considerable impairment of the vision. That the three above mentioned diseases may be directly due to uricacidemia, will not be questioned by any one who has watched their exacerbations as they sometimes occur during an acute attack of gout which selects at the same time the capsule of Tenon as its wood-pile to set on fire. I recall just here the case of a gentleman who had been suffering for some time with acute gout in his toe. He awoke one morning with great pain in his right eye, the conjunctiva of which became immensely oedematous, so that the lids could not close. The oedema soon spread to the upper lid. The trouble was acute gout of Tenon's capsule, the pain of which was excruciating. While this outward inflammation was running its course, the patient saw continually before his eyes flashes of light so distinct that he described them as fire-works. The photophobia was intense. After a few days the swelling, pain and photophobia disappeared, and examination of the interior of the ball revealed gouty arterio- and veno-sclerosis, together with quantities of floating bodies in the vitreous. That glaucoma is more frequent than is admitted, the result of the uric acid attacks along the excretory channels of the eye will some day, I believe, be generally admitted. Among the other manifestations of uricacidemia may be men-

tioned the irritation of the conjunctiva with its intense itching that is so often seen accompanying those cases of hay fever due to excess of uric acid.

The *itching eye*, common in childhood, and met with more or less frequently in adult life, is also often the result of uricacidemia. For example: Miss G., aged eight, had for three years been suffering from an annoying itching of the eyes—i. e., conjunctiva and lids; she had been under more or less constant treatment, using drops and salves of various kinds. Nothing had afforded any relief. When seen on the first visit, she was found to be well grown, even fat, but anæmic. The conjunctiva showed nothing worthy of note, save a tendency to some pseudo granulations along the cul-de-sac. Nose and nasopharynx normal. The child's diet proved to consist largely of meat and coffee. Attention to her diet and the administration of the iodide of potash in fifteen-grain doses relieved the itching in a few days. No treatment for the lids was advised.

That certain of the chronic affections of the glands of the lids, seen in old people who suffer from gout, are directly the result of the excess of uric acid furnished the blood through the improper feeding of a lifetime, I have no doubt.

Such, without being a complete list, are some of the more common ocular manifestations of uricacidemia. My object has been to mention, with example, rather the symptoms of which patients complain, than to attempt an unfolding of the pathological conditions and the mode of their production. Whether uric acid is ever produced in tissue metabolism except in a definite proportion to urea, in what form it exists in the blood, how it brings about high blood pressure, why its storm centres are now in the toe, now in the knee, now in the stomach; eye or elsewhere, how it causes changes in the arteries and veins, what these changes are, and the many other important questions which belong to a full consideration of this potent factor in our modern civilized life, are out of place here.

314 E. Franklin St.

Hydrozone and Glycozone for Hay Fever.

Dobell's solution has been frequently used in the treatment of hay fever; but in quite a number of people who have used it, the results have been far from satisfactory. Hydrozone and glycozone, used in the usual way, have probably done more good to hay fever sufferers than any other class of remedies.

PRESIDENTIAL ADDRESS.*

By LLEWELLYN ELIOT, A. M., M. D., Washington, D. C.

President of the Medical and Surgical Society of the District of Columbia, etc.

Gentlemen.—It is with much pleasure that I bid you welcome to the Decennial Meeting of The Medical and Surgical Society of the District of Columbia. It may be of interest to you to know something of our Society, and in what I shall have to say our history will be briefly sketched without dwelling upon the personal works of any member. The early history of this Society is very much like that of all other medical societies—a vigorous birth followed by a stage of decline, to be followed by a stage of renewed energy and permanent strength. The early history of the Medical Society of the District of Columbia proves this assertion, although it is now one of the ranking old Societies of this country.

Membership in Medical Societies is an absolute necessity for physicians, since they serve to broaden his views by an interchange of ideas, foster friendships, and are those little social oases in his hard, his constant, and his oftentimes thankless struggle for the welfare of his fellow-man. It is through such membership that he is encouraged to advocate and enforce measures which improve the hygienic and sanitary conditions of cities, States and countries. He accepts the self-imposed duty of demanding the proper construction of sewage systems. He demonstrates the sources of pollution of the water-supply, and the characters of the different organisms contained, at the same time recommending such measures as will correct the errors and improve the supply. In doing all this, he is endeavoring to stamp out of existence yellow fever, cholera, small pox, diphtheria, typhoid fever, and other infectious and contagious diseases, thereby lessening his chances for an increasing income from their presence. He is taught by precept and example to face both disease and death with unflinching courage, at home and abroad, in peace and in war.

On the 30th of October, 1888, this Society was organized with a charter membership of six—Eliot, Chamberlin, Hazen, J. S. Harrison, Ober and Geo. Byrd Harrison—three of whom are still loyal—Hazen, Chamberlin and myself. At that time, there was a field for new Societies, and especially such as we organized—a medico-social society—where papers were to

be discussed in that spirit of justness and fairness which forms and cements friendships, and while we can recall many and spirited discussions, not a member cherishes ill-feeling, and not a member would refuse a Fellow any assistance in reason. Members were admitted slowly, and only after a searching investigation.

To speak of the advantages or the benefits our Fellows have derived from membership would consume much time; suffice it to say, that the majority of us were, at the time of entrance, timid, never heard in public meetings, nor had many of us written or published medical papers. To-day, not a member but has contributed to the meetings of other societies, not a member but has placed upon record one or more literary contributions, and four of our members have been chosen as President of the Medical Association of the District of Columbia, and another as President of the American Electro-Therapeutic Society. Dr. Busey, one of our honorary members, is filling his fifth consecutive term as President of the Medical Society of the District of Columbia, and another, Surgeon-General Sternberg, was chosen President of the American Medical Association.

The Investigating Committee of the Abuses of Medical Charity in the District of Columbia had a majority of its members from our ranks. The surgeons of the Police and Fire Departments, the present Coroner, the Inspectors and Physician-in-Charge of Contagious Diseases, have been drawn from our membership. The investigation of typhoid fever, as well as of the supply of the District, was the work of one of our members; the investigation of and report upon opium abuses was the outcome of a paper presented at one of our meetings. Two of our members were on Arctic explorations, and two were actively engaged in the Hispano-American War.

There is still a field for such societies as ours—societies with a limited membership, which at no time becomes unwieldy. At the same time, while this is true, every member of the local profession owes his allegiance to the Medical Association of the District of Columbia, and must be governed by any and all regulations which it may promulgate, for this is the ethical and the business Association of the District. Then comes the Medical Society of the District of Columbia, which, while in its eightieth year, shows not a single sign of old age or degeneracy, but is looking and pushing ever onward in its search for and verification of medical truths, denouncing false dogmas,

* Decennial Anniversary of the Medical and Surgical Society of the District of Columbia, Oct. 31, 1898.

upholding those which are true. Membership in this body is a necessity for those who desire to be in the vanguard of the profession.

Of the various special societies I shall not speak, since it is self-evident that those whose work lies in special lines must derive untold benefit from a mutual interchange of ideas.

The papers which have been presented at our meetings have been of a high order from the first. Many of these papers have been widely copied, both at home and abroad, and they show the trend of the individual mind. We are not at a loss for an official organ, for our records will show letters requesting our transactions, but we remain true to the *Virginia Medical Semi-Monthly*.

There is one matter to which I would earnestly call your attention, and ask your undivided assistance. It is the collective investigation of disease as seen in the District of Columbia. In this work, every medical practitioner can take his share, and while, at first, it will entail a little labor, the pleasure and benefit to the individual and to the profession would more than repay for the labor expended. This is a matter to which I have given much thought, and have decided to begin an investigation of my own work, and at the end of a year will be able to state with exactness every case of fever, rheumatism, fracture, dislocation, as well as many others not mentioned, giving color, sex, adult or child, and result; in other words, a detailed summary of a year's work. Four hundred men working together would be able to present an array of facts relating to the morbidity and mortality of the District of Columbia, which would refute many slanders upon our city. The preparation of such a condensed table would require the services of a committee having a true conception of the undertaking, and an earnest desire to benefit the profession. Very many facts are buried between the leaves of a physician's call book; very many facts are remembered but faintly, by reason of carelessly kept case-books. Many men, I regret to say, are without an ambition in the practice of medicine other than the gaining of a dollar, and when a patient recovers or dies, so far as statistical information is concerned, that patient could just as well have been without medical attendance. There is, however, a mutual satisfaction between the patient, his friends, and the physician, which for a time almost amounts to the worship of a demi-god. But when the bill for services is rendered—let us draw the curtain.

The roll of honor of the District of Columbia is not long, but the deeds of its members are

still remembered. Thomas L. Sim died in 1832, of cholera, while engaged with others during an epidemic of that disease; Samuel W. Everett was killed in April, 1862, at the Battle of Pittsburgh Landing; J. W. Dunn and C. J. Osmun died of diphtheria contracted while attending patients ill with this disease; while Francis Leibler and Madison Brewer sacrificed their lives in the recent war. It would consume far too much time to go over the long list of physicians disabled by different diseases in the discharge of their duties.

There are many ardent workers in our midst whose loss to medicine, as practitioner, consultant, teacher and writer will be felt by the entire community. Take some who have been taken away—for instance, the Mays, father and son; Thomas Sewell, Henry Hunt, Harvey Lindsley, Thomas Miller, Jas. C. Hall, A. Y. P. Garnett, C. H. Leibermann, George M. Dove, Wm. P. Johnston, Noble Young, Frank Ashford, Johnson Eliot and Jas. E. Morgan, and I might add many more. Who mentions George M. Dove without feelings of respect? Who does not speak well of Thomas Miller, as physician and surgeon? Leibermann, we still call "the old Dutchman," but as a scientific practitioner of his day, history speaks. Many of us remember the respect and almost veneration paid to Henry Hunt. The irascibility of Garnett is forgotten when we remember his work and his steadfast devotion to principles of honor. Who does not revere the memory of Frank Ashford? We still say "Old Doctor Hall." Joseph Barrows is still "Old Uncle Joe." And the names of Noble Young, Johnson Eliot, Jas. E. Morgan, and Flodoardo Howard are still linked together. John C. Riley, John M. Snyder, J. M. Toner, Joshua Ritchie, B. S. Bohrer, Grafton Tyler, Joshua O. Stanton, Morgan, father and son, Sothoron, Lincoln, and many others will live in memory for many years, as honored and loved members of the profession of our city.

To speak of the living would be out of place, but I cannot refrain from calling the names of those who have followed our profession to the fiftieth year. They are J. W. Buckley, Berkshire Medical College, 1844; Robert Fletcher, M. R. C. S., England, 1844; John I. Dyer, Columbian College, 1847; S. C. Bussey, University Pennsylvania, 1848; J. H. Mundell, University Maryland, 1849; and J. S. Harrison, Ohio Medical College, 1849. There are many in the second half of the fourth decade. I must bring my remarks to a close, because those who are to follow me will afford you far more pleasure and instruction. Let us hope, however, that we

will always cherish the deeds and the memories of those who have passed away.

1106 P. Street, N. W.

BENEFITS OF MEDICAL EXAMINING BOARDS TO COMMUNITIES AND TO THE PROFESSION.*

By LANDON B. EDWARDS, M. D., Richmond, Va.,

Honorary Member of the Medical and Surgical Society of the District of Columbia; Professor of Practice of Medicine and Clinical Medicine in University College of Medicine, Richmond, etc.

The invitation to participate in the proceedings of this decennial celebration of the Medical and Surgical Society of the District of Columbia is most highly appreciated, and I sincerely thank you. I come with the greater appreciation of the honor conferred when I read down the Register of your membership—active and honorary—the names of men of fame, whose extended reputation and influence give tone and character to any organization with which they may be associated.

I can but attribute the selection of myself as one of the gentlemen to address you to-night to a too partial friendship of your president, who in a letter insisted that it would be “shabby treatment” if I declined. I have been the recipient of so many courtesies and favors at the hands of this Society that I must confess I myself thought it would appear so if I did not respond to the flattering invitation. While I recognize the honor which your partiality has conferred, I realize my imperfections and inability meet in your desire.

You have an organization of men whose reputation has extended far beyond the District of Columbia and the adjacent States. You stand here at our National Capital as the guardians of the health and lives of the ablest and most popular men of our several States, who annually come as the representatives of the people of this great Union. And then, too, in each of the departments of government there are here in various capacities some of our best men and worthiest women to fill clerical and other important positions. It is but natural, therefore, that we who live elsewhere should feel an interest in the profession of Washington; and we are glad to know that our friends and former patrons who have moved to your beautiful city are in charge of competent and worthy physicians and surgeons.

In running over some subjects which have been suggested as topic for this evening's consideration, I am reminded of the Irishman that your worthy Fellow, Dr. Bovée, told us of on the occasion of the banquet recently given the Medical Society of Virginia at Virginia Beach. It seems that the Irishman was called upon to respond to a toast. As he arose he turned to a fellow-countryman and inquired, “I say, Pat, what must I spake about?” As quick as thought was the response, “Spake about a *minute* and sit down.”

Notwithstanding this advice corresponds with that given me at home, where my shortcomings and yet good intentions are best known, I shall occupy something more than a minute in speaking on “*The Benefits of Medical Examining Boards to the Community and to the Profession.*”

When one considers the grave responsibilities of the physician—that to his care and judgment and learning must be committed the health and lives of those nearest and dearest to us—it seems passing strange that there ever was a time in educated communities when *any* one having arrived at the age of 21 years could assume the practice of medicine and surgery. It made no difference how untutored or how grossly ignorant a person may have been, he was at liberty to announce himself as a practicing doctor; and, strange to say, there were willing patrons even among the cultivated classes. The plow boy, the blacksmith, the barber, each had a sure and certain remedy for every ailment. This remedy was always a secret mixture which he alone could compound, and which he only could tell how to use when approached by some one with an exorbitant price in his hand. There was no law to prevent such arrogant quackery. Secrecy and mystery were the cloaks of ignorance, and it seems that gullible people lived in that not far ago day as in our own. The more completely concealed from observation was the formula the more valuable was the remedy. In truth, when benefit resulted, the medicine did its work solely upon the principle of the faith cure. For, as soon as the composition of the nostrum was brought up and shown to consist of useless or dangerous materials that any one could compound for a few cents, that moment the nostrum became powerless to heal or cure.

Even when the composition of the nostrum was found out, the most ludicrous explanation of the action of the herbs and drugs was given. It is told on authority, that a Virginia darkey had a compound that was good for all sorts

* Read before the Medical and Surgical Society of the District of Columbia on the occasion of its Decennial Celebration in Washington, D. C., November 1st, 1898.

and conditions of wounds and sores. Finally, a corporation bought out the recipe and all rights belonging to it. Members of the company became chagrined and disgusted when they learned that the total ingredients were alum and resin. One of the company, thinking that perhaps the old darkey was concealing something, asked in a confidential way, "Why do you use these things?" "De alum to draw de parts togedder, and de rozum to sodder 'em."

Of course, there were *some* clever physicians in those days, who studied medicine as a science and applied surgery as an art. But what encouragement was there for them when the people then paid so high a premium upon ignorance and charlatantry—much as they do now-a-days with reference to the wonderful cure alls advertised in the quack medicine columns of newspapers? We will not indulge the temptation just here to pay our respects to the religious papers of the country for admitting into their columns such disgusting, immoral and falsifying advertisements and "reading notices" as so commonly are found in them.

It will ever be inexplicable to me, why people, generally sensible about other matters, place such implicit confidence in the quack, who establishes himself upon our street corners, or with assumed wisdom and wise looks, dispenses medicine from a drugstore on wheels. The vocabulary of this pretender consists of a few mispronounced technicalities, and while his work is mainly with the ignorant, he not infrequently claims the patronage of the more educated and influential public.

Is it not surprising, then, that with all the recent advances made in the arts and sciences, there should have arisen a desire on the part of the doctor to exclude from the profession every trace of former charlatantry and superstition? Mortified at being compelled to associate in consultations with such ignorance as was everywhere prevalent, these relatively few worthy practitioners sought to benefit themselves—to increase a laudable desire for information amongst their fellows, and to benefit communities at large by requiring a better education of the doctor.

How to secure this desirable end was the question of the hour. It was suggested that the medical colleges of the country were responsible for the lack of education amongst the profession, and they were appealed to. A few responded in the proper spirit; but it was soon found that less worthy institutions were taking advantage of the advanced demands of the few; unworthy advertisements and ignoble

inducements were offered to graduate quickly and on superficial examination. In fact, doctors in many towns and cities organized themselves into faculties and colleges for the purpose of securing consultation fees through the influence of their graduate emissaries scattered throughout the tributary country. The colleges soon swarmed with untutored matriculants, unfit for a vocation other than the plow or the shop. The graduates of such diploma-mills began to flood the remote States. The Southern States especially soon began to feel the incubus. Alabama enacted a law which established county boards of examiners; but it soon became evident that very different degrees of proficiency were required in different counties. The incompetent graduate soon learned of the counties where the requirements were least exacting. Receiving his license from such a county board, he was at liberty to establish himself in any other part of the State. North Carolina next followed, with a law establishing a board of medical examiners, which prohibited any except those who passed it from collecting fees by warrant or other process of law. Then, in 1884, Virginia—the first State of the Union to take a decided step in the right direction—enacted a law, in force after January 1, 1885, which required every graduate or non-graduate to be examined by a State board of medical examiners before receiving a license to practice in that State.

The results of the earlier examinations were simply alarming. Over 50 per cent. of *graduates* of then reputable medical colleges failed to pass satisfactory examinations, although the markings were extremely liberal, and the standard of requirement only 75 per cent. The result has been that the colleges which have graduates to come before the Virginia board are doing better work—no such percentage of failures now occurring.

The spirit of the laws of these three States was soon imbibed by the profession of other States, which one after another enacted laws establishing medical examining boards for their respective boundaries, until now there are left but few States and Territories of the Union that have not legislated on the subject. Some of the States have greatly improved on the laws as originated by the States cited. And now a general effort is being made by the profession of the country to so systematize the laws of the States having boards of examiners as to adopt a uniformity of grades and methods which will permit of interchanges between them, so that the certificate of one State board will be satisfactory evidence to another State

board that the holder is proficient in all the branches of study demanded by the best medical colleges.

With this crude statement of the need for medical examining boards, and how they first came into existence in these United States, let us pass in review some of the benefits accruing to a community and to the profession at large.

It is a well accepted truism that "knowledge is power." Whatever, therefore, promotes the education of the profession, and compels the acquisition of a knowledge of the science and art of medicine, contributes in a like degree to the ability of the physician. We have shown, in a cursory manner, that the establishment of boards of medical examiners in the several States forces the applicant for examination to prove his qualifications. For unless he can show sufficient evidence of education before the State board, he cannot pursue the practice of medicine and surgery in that State.

Now, suppose some one in this audience was taken sick in a State in which medical examining boards are required by law, which of two doctors would you prefer? One who had passed a successful examination before the board, or one who had in some way evaded the law because he was afraid to submit his knowledge to the test of an examination? The very fact that a doctor has received his certificate from the board of examiners brings to him the confidence of the community, as it also gives to the community a sense of security or protection that would not otherwise exist.

As a result of this increased confidence in the doctor, he gains influence in communities regarding questions that look to the preservation of the life and health of its citizens. So that, for instance, when the educated doctor points out the liability to typhoid fever, which lurks in the cisterns and wells of cities, his voice is heard and respected. Think, also, of the relief of a family already stricken by that dread disease—diphtheria—when the physician assures them that there is both prevention and cure for it in the use of antitoxin and stimulants. When he tells of the micro-organisms which cause epidemic cholera and proves to the nation that the disease can be checked, even when it is imported to our shores, or can be prevented in the individual by following out certain directions as to food and drink, he becomes a benefactor that no bronze nor monumental pile can fully commemorate. Illustrations without number could be presented to mark the wonderful advances in medicine in recent years, regarding a knowledge of which

he who fails to stand satisfactorily before the board is as ignorant as the layman. One who attains even the minimum of requirement, as exacted by the State or District Board of Medical Examiners, is apt to be conversant with these and like marvelous advances in medical science and practice. Ignorance with reference to such advances is inexcusable in the doctor of to-day, and its elimination can only be attained by impartial and non-political medical examining boards.

Who, then, can estimate the benefit to a community of medical examining boards that uprightly and honestly do their duty? They shut out charlatany, and quackery, and such other forms of ignorance and arrogance as have, in years gone by, strutted our streets as licensed murderers. They are driving from these States the ignorant and incompetent, who are flooding such other States as are not protected by medical examining boards. These boards should be nurtured by whatever help the State or country can render by legislation or appropriation.

And now turning to the profession, what are the benefits to it of medical examining boards? We have had in Virginia fourteen years of experience with this system. Our board is composed of honest, progressive men, chosen by the profession itself. If one drops back in memory to what was common in 1885, and compares the degree of education of that period with that of the present day, he recognizes a transformation almost as complete as the change from night to day. I do not mean by such remark to cast reflection upon the relatively few men of attainment and ability then well known, but it applies rather to the masses of the profession as it was then and is now. To-day we recognize a degree of information and preparation in the younger doctors that would have rendered famous the older practitioner of other days. Each session of our State Society, and each meeting of our local Societies—county or city—is favored with papers that show intelligence, thought, and appreciation of scientific work. Such advancement in the attainments of the profession as a whole, is a constant stimulus to study and to learn.

If, Mr. President, I have limited my illustrations too narrowly to what has been common experience and observation in my own State, it is because much of my life-work has been bent upon establishing the Medical Examining Board of Virginia, and in striving to secure still needed legislation to perfect the organization into an ideal one.

Your District of Columbia laws have, per-

haps, been too recently enforced for you yet to see the great benefit which will follow as time rolls on into years. Nurture the infant board as it exists under congressional enactment. The profession of the country looks to the National Capital for the perfection of its laws. Keep politics out of medical questions. Let neither democracy nor republicanism, the populist, nor the single tax party, become controllers of either church or medicine. Our profession has nobler aims than political supremacy. It falls to our duty to study and relieve the wants of suffering humanity—regardless of nationality, or creed, or sect. Through sunshine and through storm, by night or by day, on battle-fields of carnage or in homes of luxuriant ease, it is our duty to minister to our fellow man, stricken by disease or felled by wound. And when we learn, in the true sense, to practice the teaching, "Do unto others as ye would that others should do unto you," then will the medical profession become a truly exalted one.

106 W. Grace St.

HIGHER MEDICAL EDUCATION AND A PLEA FOR BETTER TRAINING OF THE VOLUNTEER MEDICAL OFFICER.*

By GEORGE M. KOBER, M. D., Washington, D. C.

There cannot be a successful concealment of the fact, that the reputation of the medical profession of this city is not an enviable one. The causes are manifold, but it is not generally known that up to June 3, 1896, the National Capital was a veritable mecca for quacks—that is to say, men who failed to pass the State Examining Boards elsewhere could come here and practice without restriction one of the most difficult and responsible of all professions. As a result, we have about 1,100 so-called physicians in this city. Of this number, only 404 are members of the regular Medical Association, and fifty-one are homœopaths in good standing. It must be evident that the remainder contains a large number of men of questionable professional attainments; and since the public is not in a position to know who is who, we need not wonder that with such a preponderance of unqualified men, the entire medical profession of this city is regarded with suspicion.

We are not responsible for the fact, that every one who chose to call himself a doctor,

and had the audacity to practice the healing art, could impose upon a credulous public with impunity. But we are responsible for the enactment of a law to regulate the practice of medicine and surgery in the District of Columbia, to license physicians and surgeons after due examination, and to punish persons violating the provisions of the act. The law of June 3d, 1896, was not retroactive, however, and the community has not been purged of the ubiquitous quack; but the law will protect the inhabitants from future additions.

In view of this explanation, we have at least a right to expect that patients and their friends, before condemning the profession as a whole, should take special pains to inquire into the fitness of their physician. As it is now, the public are altogether too apt to entrust their lives to men, of whom they simply know that they style themselves doctors and advertise liberally; and then judge the standard of the profession by a preponderance of irregular physicians.

The advantages of medical societies to individuals have already been pointed out; and my only regret is, that they are not shared by a larger number. Our own membership is limited to twenty-five. The author presents his essay to a meeting which, with invited guests, rarely exceeds that number.

Why would it not be more beneficent to hold our scientific meetings as sections of the parent Medical Society? Thus, one evening in each month could be devoted to the Obstetrical and Gynecological Society, another to the Medical and Surgical Society, another to the Clinico-Pathological Society, and the remainder to general meetings. The autonomy of these various societies should be preserved, and their regular meetings devoted to business and social affairs, while their scientific work would be presented to a larger audience.

The inauguration of such a plan, together with collective scientific investigation of diseases as suggested by our President, will do much toward elevating the standard of our profession. We are all laboring for one great object—the promotion and dissemination of medical truths; and the question which concerns us most, is the greatest good to the greatest number—and, indirectly, also the good name and fame of the local profession, "among whom there should be no contention, except that noble contention, or rather emulation, as to who best can work and best agree."

Indeed, it should be our ambition to make the capital of a proud and gigantic nation a medical centre, as it has already become a social, scientific and literary centre.

* Read at the Decennial Anniversary of the Medical and Surgical Society of the District of Columbia, October 31, 1898.

The material is here, awaiting to be utilized. The doors of several well-equipped medical colleges, the Library of the Surgeon-General's Office, the Army Medical Museum, the Museum of Hygiene, the Botanical Garden, the U. S. National Museum and Zoological Park, with their rich treasures, are open to us.

What city in our broad land can boast of better advantages to the medical student? What city in the Union affords a purer scientific atmosphere?

It has been urged that this city does not afford a sufficient amount of clinical instruction for students; but this is an evident misapprehension of the facts. We have a population of nearly 300,000, and hospital facilities for the treatment of over 1,000 patients. Indeed, during the year 1896, 26,000 indigent persons were treated in district hospitals, and 32,180 in dispensaries and by the physicians to the poor; and the city affords, therefore, ample material for the practical training of the future family physician; moreover, a few cases of the same type of disease or injury, carefully studied, are far more instructive than a larger number hastily investigated.

It has been truly said that the ideal hospital is one connected with a medical school, the professors of which are also the attending staff; and it is a matter of great satisfaction that two of our medical schools have inaugurated recently such institutions, which I predict will attract medical students from other cities to the National Capital.

If, however, we wish to make Washington a national medical centre like Berlin, London, Paris and Vienna, we ought not to send our local students to Philadelphia, New York, Boston or Baltimore; and if we wish to add to the lustre of American medical schools, let us bring them up to the standard of European institutions and advise our students to remain at home.

I do not mean to imply that all of the medical colleges in America are on the same high plane which some have attained; but I do aver that quite a number of our medical schools afford the same advantages which can be derived in Europe.

We are simply deficient in original investigation, and the reason is that European institutions are liberally supported by the Government.

All scientific research requires time, patience and money. No individual, unless possessed of wealth, can afford to make these sacrifices. The American professor receives no salary from the Government; the college fees are

small; he must earn his bread and butter; while the European scientist, having no cares, can devote his entire energies to pains-taking investigation; and therein lies the secret of his success.

That American intellect, under similar conditions, can penetrate and unravel the mysteries of scientific problems, is evinced by the credible amount of original work done in this and other cities.

In this connection, permit me to call attention to the fact that patients from this city frequently find their way to the hospitals of Baltimore, Philadelphia or elsewhere. These patients are sent there by their family physician, probably because they are not aware that there are men at home fully competent to diagnose and treat these obscure cases. This lamentable ignorance is due to the fact that the attending physician has ceased to be a student—ceased his attendance upon medical societies—and, therefore, does not know the character and extent of the work accomplished by his confreres.

Surely, as a matter of local pride, we should keep in touch with the attainments of our professional brethren and thus avoid the transfer of patients to other cities, which is a tacit acknowledgment that the physicians and surgeons there are men of superior attainments, when, as a matter of fact, the same degree of erudition and skill could be found at home.

It is believed that some of the circumstances referred to have operated to bring the local profession into discredit, both at home and abroad; and it should be our duty to correct unfavorable impressions when consistent with the facts.

Perhaps no subject just now is of greater interest to the profession and the public, than the training of medical men as future medical officers of the army. Perhaps few men will question that military surgery and sanitation should have a place in the medical college curriculum. Those who are in doubt will simply have to recall our experience in past wars and consider the probabilities of the future.

In the Crimean War, the French army lost one man out of three of the whole army, and of 95,613 lives lost, only 10,240 were killed, about as many died of wounds, while the remainder, more than 75,000, died of disease.

The total deaths in the Union army during our Civil War, numbered 259,496, or over 15 per cent. of the entire number of enlistments. Of this number, 124,586, or nearly one-half, died from disease, while 134,910 were killed in battle or died from the effects of wounds. In-

deed, it is calculated that in that war the Union army treated over six million cases, including 151,384 cases of continued fever, mostly typhoid, 1,739,135 cases of diarrhoea and dysentery, 76,318 cases of measles, 18,952 cases of small pox, and 24,812 cases of erysipelas.

"What an excess of pain and sorrow; what an ocean of tears and blood are contained in these figures!"

Consider, if you please, that in addition to this terrible sacrifice of human life, a generous nation expends 140,000,000 a year for the support of invalids of this war.

In spite of this array of preventable diseases, Prof. Virchow, the highest medical authority in Germany, in reviewing the medical history of that war, said: "That the French in the Crimea learned from their experience little or nothing, and the Americans during the Civil War so much, was not due to the magnitude of the need which the Americans had to suffer; for this was not greater than that experienced by the French in the Crimea, but rather to the critical and truly scientific spirit, the open mind, the sound and practical common sense which in America gradually permeated all departments of army organization, and which, under the wonderful co-operation of an entire nation, reached the highest point of humane effort ever attained in a great war."

From this time dates a new era in military medicine, and the knowledge purchased at so vast an expense, has had a beneficial influence upon other armies and borne fruit in our recent brief but glorious war; for, notwithstanding the most unjust criticism of the press, the work of the medical department of the army, in the face of adverse climatic conditions, shows a marked improvement over that performed heretofore.

We ought not to judge the efficiency of the medical corps by a few isolated cases of suffering and distress incident to the exigencies of war; but should estimate the work by the grand total accomplished.

The War Department, on October 4th, posted a bulletin showing the number of deaths from all causes between May 1st and September 30th, to have been as follows:

Killed, 23 officers and 257 enlisted men; died of wounds, 4 officers and 61 enlisted men; died of disease, 80 officers and 2,485 enlisted men—being an aggregate of 2,910 out of a total force of 274,777 officers and enlisted men, or a percentage of 1.59.

In estimating these percentages due allowance should, of course, be made for the comparative short duration of the recent war; and

reliable conclusions can only be drawn by comparing the statistics of the first six months of our Civil War with the corresponding period of the Spanish-American war. This, at present, is not practicable; but we do know that among 20,000 troops stationed at Camp Alger, Va., at the close of the second month of its recent occupancy, there were only 39 cases of typhoid fever, while at the corresponding period of 1861 the same number of troops near Washington furnished 166 cases.

When it is remembered that the largest percentage of sickness and mortality generally occurs during the first few months of a war, because large numbers of unseasoned troops are aggregated in military camps, and their very ages, from 18 to 30, together with a radical change in the mode of living, renders them especially liable to typhoid fever infection, we may confidently expect that future comparisons with troops exposed to similar influences will show that the medical corps has kept pace with the progress of preventive medicine. Indeed, the medical statistics so far at hand clearly demonstrate its success in diminishing the horrors of war.

All this is the more creditable, when we consider that the United States with a small standing army and a small corps of trained medical officers, was suddenly involved in war, absolutely unprepared for the struggle, except that we had men gifted with good common sense, powers of observation and application, and a generous nation to provide the necessary means.

If the American medical staff accomplished so much without special training, how much more might have been achieved had the volunteer medical officers enjoyed instructions in military surgery and sanitation, such as is given in the Army Medical School, in this city, established by Surgeon-General Sternberg, five years ago, as one of his first official acts.

Some one will say, "Necessity is the mother of invention. Experience is the best teacher. We did it before, and we can do again." Yes; but who can deny that had the medical officers of our wars known more of army diseases, their causes and prevention, had they appreciated the importance of military sanitation and the routine of their official duties, the results, creditable as they are, would have been still more satisfactory?

It is true the volunteer medical officer is perfectly familiar with surgery and medicine, their practice from civil life does not differ, save in the circumstances which surround them; but it is not so with his official and

sanitary duties, and, as well expressed by a competent critic, "the difficulties encountered by the army medical department were due to the impossibility of having in so short a time an experienced and well disciplined medical force sufficiently strong in numbers to control the sanitary situation in an aggregation of a quarter of a million of men, hurriedly thrown together in military camps."

Our army certainly needs reorganization; instead, however, of attacking a faulty system, for which the people or their representatives in Congress are largely to blame, the present chief of the Army Medical Department has been made a target for most unjust criticism. He appears to be held responsible for the care of every individual sick, for the sanitary condition of camps, for the misdeeds of his subordinates, for the failure of the Quartermaster's Department to land medical supplies, etc.; but this earnest, hard-working officer needs no vindication at my hands. History will do this when the facts are known, and the facts already developed reflect the highest credit upon his administration.

His circular of April 25th, four days after the declaration of war, in which he urged on medical and commanding officers the importance of sanitary precautions for the prevention of disease in camps, has alone saved thousands of lives, as judged by the experience of former wars.

The question naturally arises, What can be done to secure an experienced sanitary corps of medical officers in the event of future wars? And the answer must be, we should either have a large standing army, fully trained and equipped for any and every emergency, or provide this special training in some other way.

One of our Presidents has said, that "under our system of government we will never have a large standing army, and our strength and safety are in a general dissemination of military knowledge among the people." This advice has been acted upon by numerous educational institutions, teaching the coming men of America the elements of the art of war; but so far scarcely any of our medical colleges have deemed it necessary to teach their students the duties of medical officers. It is true the National Guards afford an opportunity for this training, but even if all the medical officers of the State troops were on the high plane of efficiency that a few have attained, they could not fill the demand of those needed in a war of any proportion, requiring at least one medical officer for every 200 fighting men; and we should, therefore, look to our medical

schools for a systematic diffusion of military sanitation.

Our medical colleges have very generally introduced instruction in personal and public hygiene; and there should be no difficulty in convincing them that it is a patriotic duty to establish a course on military surgery and sanitation.

As a matter of fact, one of the medical schools in this city established such a course in 1894; and it is believed that interest in the general course on hygiene has been promoted thereby.

It is no more difficult to interest the average student in this than in any of the subjects taught, provided the course is made obligatory and he is required to pass a satisfactory examination. This is sufficient to insure prompt attendance and attention; but apart from this we can appeal to the patriotism and ambition of the student.

It cannot be expected that every young physician will or can chose the army or other public services for his professional career; but there will be ample opportunities for the application of the knowledge thus acquired as sanitary officers in connection with health boards, as physicians and surgeons in charge of hospitals, reform schools, jails, prisons, asylums, ship and police surgeons, pension examiners, surgeons in the employ of railroad and mining companies, surveying expeditions, medical examiners of insurance companies, and in the home of almost every patient.

When a student is told, for example, that the general rules to be observed in the examination of recruits will enable him to select able-bodied men for the police force and life insurance policies; and that the question of food, its preparation and the care of cooking utensils are of practical importance in the management of his patients, his interest in these subjects will be stimulated. Indeed, he will soon learn that the aphorisms of the army cook's creed are not less applicable to the civilian. Take, for instance, the following, the truth of which the soldier learned from bitter experience:

"Cleanliness is next to godliness both in persons and kettles. It is less dangerous to work your elbows than your comrade's bowels. Remember, that beans badly boiled kill more than bullets, and too much grease is more fatal than powder."

The average student of to-day will not forget the import of these aphorisms, and takes pride in being able to explain that dirty and greasy pots furnish food for certain saprophytic germs and consequent toxic products, which in turn produce cholera morbus and other gastro-

enteric disorders. That an excess of grease and improperly cooked beans render the digestive tract vulnerable to the germs of typhoid fever and dysentery, and are, to a great extent, responsible for the many cases of simple and chronic diarrhoea. He will also appreciate the necessity of a prompt and correct diagnosis and proper disinfection, in order to limit the spread of typhoid fever and other infectious diseases, and will scarcely forget that good wholesome food and personal hygiene secure pure blood, which offers the best possible defence against microbial invaders.

The lectures on Military Hygiene and Surgery may very properly be devoted to the following subjects:

1. The national necessity of instruction in military surgery and sanitation.
2. The duties of medical officers, professional and administrative.
3. The duties of medical officers as sanitary officers.
4. The importance of examination of recruits and discharges on surgeons' certificates.
5. The training of the hospital corps.
6. The hygiene of troops in permanent posts.
7. The hygiene of troops upon the march and in camps.
8. Preparation and supplies for field service and active hostilities.
9. Modern fire-arms, explosives and projectiles.
10. The effects of modern fire-arms in battle and probable amount of surgical work in a given number of wounded.
11. General consideration of gunshot, sabre, and bayonet wounds.
12. Dressing stations, field, base and general hospital.
13. Army diseases, their causes and prevention.

In order to supplement theoretical instruction by practical experience, legislation should be invoked to enable respectable medical colleges to recommend to the Surgeon-General a certain number of qualified students for admission to the Army Medical School. Upon completion of their course, those passing the most creditable examination might be chosen to fill vacancies in the regular corps, while the remainder should be appointed additional assistant surgeons for a term of two years, at the expiration of which they should return to civil life, obligated to render service whenever the exigencies of war require it.

The advantage of this plan, apart from supplying the public service with superior talent, would be the creation of a strong reserve, whose

special training would be invaluable, not only to State troops, but to the nation, in peace as well as in war.

In conclusion, let us not relax our efforts to elevate the standard of our beneficent profession. Progress has crowned our past. We will not retrograde. Let us hand in hand, with heart and mind, join in promoting the welfare of American medicine until she has reached the proudest pinnacle in the world of learning, until she has become the fountain-head of all that is pure in scientific medicine.

ADDENDA ON APPENDICITIS.

By E. H. JUDKINS, LL.B., M. D., Boston, Mass.

For a year since my article, "Appendicitis Half a Century Ago," was printed, there has been much historical literature from the pens of many men in the profession upon this subject. As stated by Dr. Reginald H. Fitz, of Boston, in the new "*Practice*" written by himself and Dr. Woods, the term "appendicitis" was first applied by Dr. Fitz, in an article which appeared in 1888, to the affection, various conditions of which, heretofore, had been described as typhlitis, perityphlitis, paratyphlitis, appendicular peritonitis, and perityphlitic abscess. (This nomenclature might include, also, iliac phlegmon, cæcitis, pericæcitis, paracæcitis, periappendicitis, ephyaditis, etc.)

In a former paper, read before the Association of American Physicians in 1886, he claimed as an extreme rarity a primary perforating inflammation of the cæcum, with which appendicitis may be confounded.

With, of Copenhagen, in 1880, denied that peritonitis ever originated in typhlitis. Flagge, in his "*Practice*," 1886, says: "Dr. Wilks has repeatedly expressed to me the opinion that in both typhlitis and perityphlitis, the disease begins in the appendix, and that variations in the intensity of the morbid process are the real cause of the supposed distinction between them. And, so far as I can learn, all the evidence which morbid anatomy affords points strongly in that direction."

At this time (1886), and in all text-books published prior to 1892, typhlitis was generally treated as an important factor in producing the ultimate phenomena of which is now known as appendicitis—although Dr. Flagge evidently meant disease of the appendix, as did Ziegler, who, in his "*Pathological Anatomy*," 1885, uses the word typhlitis for appendicitis; but Osler, in his edition of 1892, says that the terms

"perityphlitis and paratyphlitis should be altogether discarded, as the cases are, with rare exceptions, due to disease of the vermiform appendix"; and he says also of "typhlitis, or inflammation of the cæcum," that it is a "doubtful and uncertain malady, the pathology of which is not known, but which, clinically, is still recognized by authors." Pepper, in his *"Text Book,"* 1894, treats of typhlitis as an affection very much less common than formerly supposed, because "the majority of cases of acute disease in the right iliac fossæ are in reality appendicitis."

Some recent special treatises on this subject are *"The Pathology of the Vermiform Appendix,"* by T. N. Kelynack, of Manchester, Eng., in 1893; *"Appendicitis,"* by G. R. Fowler, of New York, in 1894; *"Diseases of the Vermiform Appendix,"* by H. P. Hawkins, of London, in 1895; and *"A Treatise on Appendicitis,"* by John B. Deaver, of Philadelphia, in 1896. Morris and others have written very valuable monographs on the subject.

Hawkins states that "a perforating ulcer of the cæcum, though it does certainly occur, is so rare that it may be disregarded"; for "appendicular disease is sufficiently frequent to justify us in regarding the appendix as the sole cause of all cases of perityphlitis, mild or severe."

Tyson, whose recent *"Practice,"* 1896, is the richest in historical matter, as well as the best in most respects, says: "The term typhlitis, so long employed, was adopted because it was thought that the disease began in the cæcum. Modern studies go to show, with almost absolute certainty, that true appendicitis never begins in the cæcum, but that the appendix in all cases is the root of the evil. Inflammation and perforation of the cæcum is, however, a possible event, though it is not clinically separable from appendicitis."

He adds that "it often happens that the earliest symptoms by which appendicitis is recognized are those of inflammation of the peritoneum covering the appendix and adjacent cæcum, but the existence of very positive disease of the mucous membrane of the appendix has been demonstrated over and over again where the peritoneum has not been invaded. It is, therefore, likely that the process begins in the appendicular mucous membrane each time. The term appendicular peritonitis, or peri-appendicitis, is a good one for the inflammation of the peritoneal covering of the appendix, while perityphlitis or para-appendicitis is equally suitable for the more extensive peritonitis about the cæcum, and the term perityphli-

tic abscess indicates well that the same inflammation has gone on to pus formation."

As is above shown, the term "appendicitis," and the disease as such, has been known to the profession only a short time; hence there has been some comment made on the fact that it was so nearly located and accurately described by Dr. Jackson more than fifty years ago—as stated in his "Letter," copied in my article. He noted the "point of tenderness," and gave symptoms as similar to those observed in typical cases, reported by a thousand and one writers of the present day, as though attempt were made to repeat his words.

However, the history of operations about the appendix discloses the fact that Mastivier (*Journal of Medicine, Surgery and Pharmacy*, Paris, May, 1759,) reported the case of a man, aged 45, with a large tumor in the right side near the umbilicus, who presented himself for treatment at the Hospital of St. Andrew of Bordeaux in the year 1757. About a pint of offensive pus was evacuated, and the post mortem showed a gangrenous cæcum and appendix, the latter containing a large corroded and encrusted pin.

Another case of perforation of the vermiform appendix was reported by J. P. Parkinson, an English physician, in 1812; another by Wege-

In 1824, Lonyer-Villernay reported a case of fatal peritonitis, which he ascribes to perforation of the appendix.

But let us proceed, *verbatim*, with Prof. Tyson's historical sketch of the disease, in his profound work, which is to be the classical "Practice"—side by side with that of Prof. Osler.

"In 1827, Melier reported four cases—three of perforative, one of relapsing appendicitis. He even suggested the possibility of curing the patient by operation, provided the diagnosis could be sufficiently established. Other isolated cases of fatal inflammation of the appendix were published from time to time. But the first systematic article was prepared by Husson and Dance in 1827, at the suggestion of Dupuytren, and the views promulgated by them were apparently those of the great surgeon himself, since they are the same as those he published six years later in his *'Lectures on Clinical Surgery.'* He treats of irritation and inflammation of the mucous membrane of the cæcum, extending thence to the retro-cæcal tissue, and thence rarely to the peritoneum. The appendix is totally ignored.

"In 1830, Goldbeck, at the suggestion of Puchelt, of Heidelberg, wrote his graduation

thesis on a *Peculiar Inflammatory Tumor of the Right Iliac Region*. He adopted the views of the French authors and called the disease perityphlitis. He also recorded a case of perforation of the appendix, with resulting peritonitis. He says, moreover, that in fatal cases of perityphlitis, the appendix has been found intact.

"In 1831, J. M. Ferrall published a paper, said to have been written several years earlier, on '*Phlegmonous Tumors in the Right Iliac Region*,' in which the cæcum is also held to be the primary seat of the phlegmon, which is described as extending thence to the connective tissue behind it, the peritoneum being accorded a minor rôle. (In 1833, Dupuytren gave expression to the same views as heretofore indicated, holding the cæcum as the cause of the disease.)

In 1834, James Copland, in his "*Dictionary of Practical Medicine*," describes what we now know as perityphlitis under the title "Inflammation of the Cæcum." He, moreover, recognizes the appendix as a possible primary seat of disease, due to foreign bodies in it, and terminating in gangrene—a great advance over Dupuytren. John Burns came still nearer the truth in 1837 and again in 1839. Though he wrote on "Inflammation of the Cæcum," even in his first paper he speaks of "ulceration of the appendix," set up by foreign bodies, such as raisin seeds, cherry stones, and concretions of possible perforation, resulting in general or local peritonitis, with abscess. (An old book in my possession, published in 1800, by Dr. A. F. M. Willich, says that "the small stones contained in strawberries, as well as in grapes, are said to accumulate in the intestines of some individuals, and to give rise to the most obstinate constipation, nay, even to the iliac passion." The latter, according to the dictionary of that day, is "a violent vomiting, in which the fecal portion of the food is voided by the mouth.")

In his second paper, Burns goes further, and states his belief that all Dupuytren's cases were due to disease of the appendix. He introduces the term *typhlo-enteritis*.

In 1838, J. F. H. Albers retrograded a little. Publishing a paper on inflammation of the cæcum, and introducing the term *typhlitis*, which he divides into acute, chronic and ster-coral typhlitis, with perityphlitis, he distinguished the latter affection from typhlitis, with which he says Puchelt and others confounded it. But, while recognizing the possibility of disease starting in the appendix and going on even to perforation, he regarded the phlegmon of the right iliac fossa as more frequently due to disease of the cæcum.

In the next year, Grisolle, appreciating correctly the rôle played by perforation of the appendix in causing the iliac phlegmon and abscess, opposed the teaching of Albers, and claimed that the cæcum could not cause the grave effects ascribed to it, since dysenteric and other well-recognized forms of ulceration of the same structure show no tendency to extend into the neighboring connective tissues. Grisolle, as though under the thrall of Dupuytren and the French school, however, still assigned an important rôle to the cæcum. From this time, however, and indeed from the date of Burns' paper in 1837 to the present, appendicitis has been an acknowledged disease, but it has seemed almost impossible, even up to this day, to shake off the idea of a typhlitis as a responsible factor in the phenomena of appendicitis.

Lonyer Villernay, in 1840, reported some cases of rapidly fatal inflammation and gangrene of the appendix.

In 1843, A. Voltz published a retrospective paper entitled, "Ulceration and Perforation of the Appendix," occasioned by foreign bodies. He concluded that the appendix was the organ at fault in all cases previously published, and apparently, for the first time, the cæcum and retro-cæcal tissues are ignored. Simple catarrh of the appendix was first recognized by Rokitsansky in 1843, in his classic work on "Pathological Anatomy." He ascribes it to the irritation of fecal matter and to concretions, and contrasted it with more intense processes of gangrene and perforation. Such inflammation, he says, may become chronic or go on to ulceration. He also refers to the benign effects of inflammatory adhesions in protecting against general peritonitis in the event of subsequent perforation. He still admitted the existence of catarrhal inflammation of the cæcum, ulceration and perforation of the latter, with inflammation of the post-cæcal tissue as a consequence. (It seems that since 1834, or 1837, the ulceration of the appendix from foreign bodies was spoken of as a matter of little consequence so long as confined to the mucous membrane, but causing abscesses when the peritoneum became involved. Hancock operated on one case in 1848.)

G. Lerris, in 1856, ascribed the less serious consequences—including, however, suppuration—to typhlitis, while the violent and fatal cases, he said, began with appendicitis, induced always by concretions.

C. Wister, in 1858, attached further importance to the part of the appendix in producing the symptoms in question. In this year, also,

Oppolzer suggested the name *paratyphlitis* for that form of iliac phlegmon which was extra-peritoneal—i. e., between the iliac fascia and bone. (In 1867, Willard Parker, of New York, favored an early operation. From this time on, the theory of the cæcum disappeared, while that of the appendix appeared—fortunately for many of our surgeons.)

Samuel Wilks was one of those who appreciated the rôle of the appendix. Thus, in the treatise of Wilks and Moxon on "Pathological Anatomy," in 1875, he says, referring to the terms cecitis, typhlitis and perityphlitis: "It is not clear, however, that any one particular form of disease is intended by those who make use of these expressions. The cases to which the names are given frequently occur clinically and recover; but when disease in the same region, with similar characters, proves fatal, we find usually some prior morbid process in the appendix rather than in the cæcum itself."

Also, "the suddenness of the attack, even in the large number of cases which recover, all point to the appendix as being the most frequent cause." But he says also: "Inflammations of the cæcum itself do occur, and apparently are sometimes caused by the continuous lodgment of hard feces in this part of the intestine. Such inflammations, by ulcerating the mucous membrane, lead to perforation and local peritonitis, forming fecal abscess, which may discharge inward, but we believe this is comparatively rare."

Dr. Wilks' most recent views are expressed by C. Hilton Flagg in the first part of this article; and, as already stated, Woith, in 1880, expressed his disbelief in the cæcal theory.

In 1883, Dr. F. F. Noyes reported 100 cases, of which 90 per cent. were operated upon in America. In 1886, Dr. Fitz, of Boston, put on record 209 cases.

During the past decade, there have been a vast number of cases reported and a mighty volume of facts—anatomical and experimental—written for the profession and rehashed for the public. The writer once heard Prof. Siebert, at the New York Polyclinic, say that the medical man who practiced any at all, and who also attempted to follow the immense and constantly increasing literature of his profession, in all its branches, would be a candidate for a lunatic asylum!

But why more doctors are not affected, according to their theories, or take their own special disease, is a source of wonder to lay brethren; and Prof. Morris, at the New York Post-Graduate School, says, too, that he eats two pounds of grapes, more or less, at a lunch-

eon, and swallows all the seeds! He probably masticates them thoroughly, or else where is the popular idea of "seeds in the appendix?" (The doctors know that they find "not a seed" there as a rule.)

It is true that many students take, or think they have, whatever disease they are studying; recently one in the South, who wrote a prize essay on appendicitis, died shortly after of the disease. For some time after graduation, and somewhat increasingly recently, your scribe has suffered from disturbance in the southwestern abdominal region, which has nearly subsided when not writing about it; hence he will inflict no more statistics of this subject on an indulgent profession after this paper is printed! It was found, however, that the old-fashioned medicinal treatment used by Dr. Jackson—as reported fifty years ago—without the loss of a case, worked very well in this, and that calomel or castor oil seemed almost a specific!

Recently, an old-time practitioner recalled, for my benefit, a case in which he was interested as a student years ago in St. Louis. The patient was a prominent physician, and the whole faculty of the town, including professors in the medical schools, came into consultation. Finally, old Dr. McDowell was called in. The bluff old man looked at the patient, asked a question or two, surveyed the assembled doctors, thrust his hand into a capacious pocket, pulled out a well-worn leather case, dumped some "mercury" from one vial, podophyllum from another, and was rummaging among aloes, gamboge, jalap, croton oil, and the other cathartics and purges of the day, when a lady of the house walked in and anxiously asked: "Why, doctor, what are you going to do?" "My G—, madam," said the rough old fellow, "I'm going to make him defecate!" Dr. McD., who thought the lady did not belong there, looked up, but with a whisk of the skirts she was gone.

The word "defecate" does not appear in the medical dictionary of that day, and the doctor "got there" quicker in his language; but he evidently aimed at a rapid *dejectio abrina*; and Shakespeare to the contrary notwithstanding, there is something in a name—although a rose by any other name might smell as sweet as the result of the doctor's treatment, in the short time he gave to it, but the patient recovered after the heroic medication.

Having been for some time connected with a hospital where appendicitis is specially treated with great success, the writer thinks that it is a disease which need not have so grave a prog-

nosis as given it by Fitz, of 26 per cent., and by Stimson, of 25 per cent. of all cases. Morris states the mortality at 15 per cent. under medical treatment, with another 10 per cent. added from numerous chronic complications resulting from previous acute attacks. Bull, in 1894, placed the mortality at 5 to 6 per cent., although he had collected 200 cases with but two deaths. Tyson states that if we separate cases which do not go on to suppuration, recovery is apparently the rule. Thus, out of 190 cases collected by Hawkins, none died. Tyson says, again, of cases treated by section and drainage after suppuration has set in, fully 25 per cent. die; while if general peritonitis intervene, 75 per cent. die. He also adds that it is impossible to say of any case, however mild, that if left alone it will not terminate in suppuration, while a larger number of cases still perish of imperfect diagnosis and delayed operation.

According to Ribbert, 16 out of 400 cases recover without operation. Osler says "there is no medicinal treatment for appendicitis. Operation is indicated for acute inflammatory trouble in the cæcal region, whether a tumor is present or not, and when by the third day the features of the case point to a progressive lesion." In his "Practice" of 1892, he says that "post mortem observations show that in many instances cases get well, often without treatment."

He also states that recurrence is common; so much so that over 40 per cent. of the cases may be spoken of as recurrent appendicitis. He advises, in the latter, to wait and not to operate during the interim. But recently, Cabot, of Boston, reports 32 operations on 31 patients in the interval of the attacks, with no deaths. Hunter McGuire reported 17 operations, with one death from chronic appendicitis, as stated in my former article. This brings me back to my starting point, and here I stop.

The appendix is still *in esse*, and will often put in appearance, for all time to come, unless we develop a race without it; but many operators are leaving the appendix behind for the future! Murray searches for it after cleansing the abscess cavity with hydrogen peroxide and flushing with hot saline solution, and McBurney says it is frequently destroyed before operation. Davis, of Birmingham, Ala., does not believe in extensively seeking for the appendix during operation. Senn and Halstead say that persistent search is hazardous. White, of Philadelphia, reports 37 cases, and Richardson, of Boston, 40 cases with the appendix left, and recoveries in all. Hence and here I leave it to be discharged per anum, if it will, as Osler

says it has been, or in such other way as shall most safely deliver us from its scourge.

N. B.—For more than a year the above article has been mislaid. McGuire's late contribution is not at hand, and to comment on the intervening literature would require another ream of paper and a waste of words. The status of the subject has not been very considerably changed, but the results of recent operations have confirmed the opinion that "haste makes waste"; and if it does save worry, it is always best to "be sure you are right before you go ahead!"

PUERPERAL ECLAMPSIA FROM A MEDICAL STANDPOINT.*

By LOUIS FAUGERES BISHOP, M. D., New York City.

I shall limit myself as closely as possible to the theme assigned to me, reserving for a later hour the discussion of cases in detail and those means of treatment that are not strictly medical.

Of the nature of eclampsia, there is still much room for speculation; nor is it possible at the present time to bring all cases in line with any one theory. To produce the convulsions, it is necessary that there should be a susceptible nervous system and a sufficient active cause. There is probably a closer parallel between the convulsions of epilepsy and the convulsions of the puerperal state than we have been prone to believe.

Nor is the causation of the one any more clear than the other. In the epileptic, it may very well be that we have a subject with a nervous susceptibility to convulsive poisons, in whose system there is generated from time to time a poison of some kind that, acting on the nerve centres, produces an epileptic attack, just as a man taking alcohol into his system at intervals will be subject to attacks of drunkenness. Now, in the puerperal state, there seems to be produced a convulsive poison, probably an excretion, that under certain circumstances is active in producing epileptiform convulsions. This poison, it would seem, might act when, as is so often the case, there is albuminuria and defective action of the kidneys, when this defect is such as to involve the excretion of this poison. It may be active when, from any cause, though not in what may be physiologic excess, it finds a nervous system

* Remarks in opening a discussion on Eclampsia at a meeting of the Alumni of the Sloane Maternity Hospital, Friday, October 28, 1898.

especially susceptible to the convulsive poison; or the convulsions may be the result of a greatly increased production of this convulsive poison independent of disease of the kidneys. So we see that in eclampsia we have a condition, covering a wider ground than albuminuria of pregnancy, because there are certainly cases of eclampsia in which the kidneys seem to play only a secondary rôle.

Undoubtedly albuminuria is one of the strongest predisposing causes, but as an immediate exciting cause, emotion and worry are certainly important. Hence the extreme frequency of eclampsia in the primipara when the presence of pregnancy is a source of anxiety. When all these causes, or any of them, have gone on to the production of convulsions, they are much more apt to continue while the fœtus remains in the uterus. This is probably due to the nervous influence of the gravid uterus, increasing the tendency to convulsions, and, perhaps, maintaining the albuminuria, which may have been an important factor.

So we see that eclampsia is a convulsive disease, most frequently occurring in association with albuminuria, but distinct from convulsions of chronic Bright's disease—a disease in which the nervous system plays a prominent part analogous to that of epilepsy, and that it is probably due to the action of a convulsive poison.

Philosophically, this theory would point out the most successful plan of treatment. The poison calls for elimination and neutralization, both of itself as a poison, and of its effects by rendering the brain less vulnerable to the poison. This is sought through increase in the action of the skin, kidneys and bowels. The neutralization of the convulsive poison is best accomplished by the introduction into the system of certain of the alkaloids of opium, usually morphine. The irritability of the nervous system is controlled by sedatives, of which morphine, used also for its antitoxic effect, is an important one. The whole situation, both as to the relief of the circulation, overcharged with a poison and the irritable nervous system, is much benefited by an abstraction of blood. Bleeding by decreasing a congestion of the nervous centres diminishes the tendency to convulsions; by decreasing the congestion of the kidneys favors excretion, and at the same time removes a portion of the poison itself—not much, of course, but perhaps enough to diminish in some degree the convulsive excess. No severe appropriate case of puerperal convulsions should be allowed to go without this measure of relief.

The advisability of obstetrical interference is a topic of the next speaker.

THE NAUHEIM TREATMENT.*

By H. NEWTON HEINEMAN, M. D., of New York, and Bad Nauheim, Germany.,

Formerly Professor at New York Polyclinic; Visiting Physician to Mt. Lina Hospital, etc.

We are asked this evening to consider the evidence which your colleague, Dr. Robert L. Bowles, has been able to collect at Bad Nauheim, upon the question, What recognizable effects can fairly be claimed to be produced by the treatment there upon cardiac disease?

He has told you, with his usual painstaking and his deliberation, that he had sufficiently convinced himself, from statements of patients whose judgment of their own case seemed incontestable, and by his own investigation of their physical state, that the effects of the treatment were favorable in innumerable cases, beyond doubt or question.

Dr. Bowles, in his remarks, has not only reported the facts as stated in the clinical histories of patients, but has sought to demonstrate to you here something of the probable mode of physical improvement, which he was able to assure himself of in a few well-selected cases.

Accordingly, you have had the opportunity of looking upon diagrams of the heart taken before and after a single treatment in a few *very favorable instances*. I use the word *favorable* advisedly for what it implies in the first place, a patient with thin chest walls, without emphysema or other complications, that would interfere with proper percussion. Next, the patient must be seen at the outset of the treatment in the first bath, or at a time when he is changing from the *lesser* to the *stronger* carbonated bath.

If, therefore, the diagrams of your colleague, showing diminution in the size of the heart, seem striking, it is because the conditions of these special cases were all of the best, so as to give a reliable result from percussion. But to expect that such a result actually takes place *after a single treatment in every case*, and to ascribe the *failure* to demonstrate the change to interference from neighboring viscera or other causes, seems to me fallacious.

For the result of the treatment in a given case, however successful it might be in the end, does not by any means manifest itself after a single bath, or after a single application of ex-

*Remarks made at the Harveian Society, London, England, March 19th, 1896—never before reported in full.

ercise. Often a week, or even a fortnight, of treatment may be required to effect changes in the size or form of the heart that are beyond any doubt. In determining these changes I have made use of the following precautions: Percussion of the heart, its relative and absolute dulness (flatness); the determination of the level of the diaphragm; the lower border of both lungs, laterally and posteriorly; the upper and lower limits of the liver, more or less often even the upper and lower limits of the spleen; the circumference of the chest in the sub-axillary and sub-mammary lines, the circumference of the abdomen; and, occasionally, the antero-posterior diameter and transverse diameter of the thorax; all these being taken both before and after the treatment. When all these precautions are used the fact of the diminution in the size of the heart is beyond question. The direction of this diminution depends upon the condition of the ventricles and auricles. Sometimes the auricles, at times the right ventricle, again the left ventricle, manifest this diminution most markedly, but occasionally it is uniform, though this is comparatively rare. The maintenance of this dimension is a matter of interest. The decrease in size from a single exercise or bath (when appreciable) is found to have nearly entirely disappeared on the following day. Some little of the decrease has, however, remained, and each succeeding bath or exercise adds an element of improvement, which though lost in part at first, leaves a permanent element of gain. Finally, we accomplish a diminution of the heart's size, which in the individual case must be considered, its future normal size under conditions of its most perfect compensation. To expect a heart with valvular disease, or of marked hypertrophy with dilatation to become normal in size, is to expect the impossible. Occasionally, too, as the result of indiscretion on the part of the patient, sometimes from the nature of the case itself, a relapse occurs which permits the heart to go back to its dilatation or imperfect compensation before treatment, sometimes even a little beyond this, but this is almost always recovered from within a short period of time (requiring medical aid at times, however), but ultimately all goes well, and more or less complete compensation is secured.

Physiology.—Physiology and clinical medicine often work in parallel grooves for a long time without meeting. So it has been in this case. While the clinical teacher has been wondering whether such things are possible, the physiologist has proven it not only possible,

but actual in the lower animals, in whom the heart has been shown to be an exceedingly variable quantity, so that the *probability* of its *variation in size and form* in mankind from the physiological standpoint is unquestioned. It is well here to note that gross differences in the size of the heart of one-half centimetre or under are not taken into consideration by me, since such minute changes must be considered within the limits of error. In observations made for several years upon day laborers, examining them before and after the day's work, and in examinations of other persons leading more or less sedentary lives, I have learnt to recognize and appreciate normal diurnal variations. In addition, careful observation has made me entirely familiar with the variations resulting from change in position of the body, as well as those caused by mental and physical strain.

So that all measurements and changes in the heart are made and spoken of with full knowledge of physiological possibilities, and strictly with consideration of the element of error.

Indications.—We must not lose sight of the fact that many cases of cardiac disease require no treatment for the heart condition. In such a case, if the functions of the heart are well performed, intercurrent ailments frequently require only the local or symptomatic treatment of the organ affected, be it the stomach or liver or other viscus. Even the slight functional disturbance exercised upon the heart disappears when the secondary disease is disposed of.

So far as the nature of the valvular lesions is concerned, this affords less certain indications for the application of this treatment than does the condition of the heart muscle itself, to-wit, the question of the degree of myocarditis, and more especially the amount of loss of compensation.

Contra-Indications.—Arterio-sclerosis when in an advanced stage; aneurism in every but its initial stage; acute and chronic Bright's disease, especially the atrophic form of chronic Bright's disease.

Precautions as to Patient.—Avoidance of all fatigue, in undressing and dressing before and after bath, as well as during exercise. In feeble patients, or in cases in bed, moderate exercise may be administered with decided benefit, until by this agency, and if needed with possibly the aid of medicinal agents, the patient is able to be up and take bath treatment. The question of bath or exercise, or both, must always be answered by considering not only the

nature of the local disorder, but the general strength and condition of the individual as well.

Prognosis.—I have seen numerous cases which have been enabled to return to Bad Nauheim every summer for periods of from three to ten years. In many cases, the patient who was on the point of giving up his ordinary occupation, has been enabled to continue in it for many years, simply as the result of this treatment.

While in Berlin this winter, the courtesy of Geheimrath von Leyden enabled me to apply the exercises daily for a period of nearly three months to a number of cases. Unfortunately, the cases were of the kind that come under the category of those contra-indicated; but as the Charité Hospital afforded no others, I proceeded in my work with the idea that if any improvement, even temporary, could be effected, it would imply so much more for the cases properly suited for the treatment. I am happy to say the results exceeded my expectations.

General Remarks.—The treatment should not be considered *ab initio* a panacea for every case of heart or circulatory disease, but there are few forms of this disease of which some cases will not, more or less often, receive greater or lesser benefit. We cannot expect to cure chronic disease, but we can get rid of the disturbing influences of the disease by restoring nerve tone, improving heart muscle, re-establishing compensation and rhythm, eliminating the further poisoning influence upon the heart and arteries of gout and rheumatism, removing tachycardia and bradycardia, relieving angina often for years, and, finally, in some cases, where youth and an otherwise sound body permit, even curing the more recent inflammatory lesions in the heart. If we always keep in mind exactly *what* we reasonably may expect to accomplish in cardiac disease, this plan of treatment will more than fulfil our anticipations.

In Winter, Continental Hotel, Paris, France.

Neurosine,

It is stated, is composed only of such drugs as have standard medicinal properties, which have been long tried, and presented in a palatable form. Neurosine has been used with success in epilepsy in two teaspoonful doses in water, three times daily. In milder neuroses, the dose is less. In all forms of female neuroses, "diuiburnia" should be combined with "neurosine."

ALTERNATING DYNAMO CURRENTS.*

By FRANCIS B. BISHOP, M. D., Washington, D. C.

At our Toronto meeting, Prof. Herdman introduced the subject of the alternating dynamo currents as a therapeutic agent. Several interesting cases were reported successfully treated.

Within the last year, I have been fortunate enough to get the alternating current in my office. This is transformed from 1,100 volts to 104 volts. I use it to run the motor to turn my static machine lighting my office—running electric fans, etc. The principal objection to its use for mechanical purposes is that, so far, there has been no economical speed regulator invented; therefore, the speed has to be regulated by the size of the pulleys on the machine. I have recently placed in my office a transformer, made for me by Messrs. Waite & Bartlett, of New York. This reduces my voltage from 104 to four volts, and gives me practically a sinusoidal current of 16,000 alternations per minute. By this transformer, the current may be turned on very gradually from zero to the full capacity of the apparatus. It is a perfect machine for light cautery work. The sensation of the current in moderate strength is very pleasant.

This current may be passed through the high tension combination coil with all the variations to which the coil is susceptible. In using it in this way, the vibrator is usually screwed down; but if the current is allowed to run the vibrator, using the full length of the coil, the tension of the current is much higher than when the vibrator is screwed down; this can be demonstrated with the Geisler tube, which also shows the current to be purely alternating.

What the special therapeutic properties of this current and its various modifications are I am not yet prepared to say, but I imagine that its range of therapeutic usefulness is very great. I should think that it would meet nearly, or quite, all of the demands of the sinusoidal machine, as well as giving us a high tension alternating current.

Dr. Herdman spoke of a number of pathological conditions which were favorably influenced by the aid of this current. I hope that he will give us the benefit of his further experience. I have treated a few cases with the aid of my transformer, but the time has been too short to record results. Two cases of writer's cramp have been greatly benefitted by this current.

1913 *I Street N. W.*

* Read before the American Electro-Therapeutic Association at Buffalo, N. Y., Sept. 15th, 1898.

DIPHTHERIA AND ITS LOGICAL TREATMENT.

By ABRAHAM M. OSNESS, M. D., Dayton, Ohio.

It is due to the lack of our exact knowledge of chemico-physiological and chemico-pathological changes in our systemic secretions that we ascribe the cause of diseases to bacteria.

Serum-albumen, the most unstable constituent of the blood serum, is the medium of pathologic activity, being the menstruum of the toxic elements.

So-called bacterial alkaloids, toxins, and toxalbumens, are argued to be extraneous virus plus vicarious physiological elaborations from diseased organs and tissues, the virus having a chemical affinity for their secretions—bacterial existence speaks for the nidus being congenial to them.

The traits and the varied treatment of chronic infectious diseases do not support the theory of an elaboration of any antitoxin in the system against any specific cause. We rather see a predisposition in a tubercular progeny to the affection, instead of a proportionate immunity.

The curative effect of serum of antitoxin, for instance, is elucidated according to "Dalton's law": Due to repeated inoculations the toxin becomes attenuated in virtue of a minimized proportion of the noxious element.

This attenuated virus, when inoculated into the system, seeks viscera and tissues, secretive of synergistic elements; but, being obnoxious to the system, it serves to stimulate the system to an hyper-physiological degree—a state that is followed by a suspension in activity of involved parts or centres with abortion of the pathological process, meanwhile the system eliminates the formed product, bringing on a cure.

Acquired immunity is the latent, potential reaction after an hyper-physiological stimulation of involved centres of the system seeking to neutralize what is obnoxious to it.

Over-taxation and invalidation of those centres cause a suspension in the pathologic activity. Those centres, if not permanently impaired (causing sequelæ and predisposition to other maladies) in time, react hypo-physiologically, during which period we enjoy immunity to that particular virus.

The pathological process in diphtheria is caused by the serum-albumen, at the locus of infection, becoming moderated from incorpora-

tion with the specific virus. It is then repudiated by the blood-stream and exudes into the neighboring tissues, where it, plus necrotic cells and fibres, form the pseudo-membrane, that is, a congenial nidus for the Klebs-Löffler bacillus. The intoxication of the system depends upon the energy of the lymphatics, upon which devolves the removal of the exudate.

In the treatment, the use of serum of antitoxin of diphtheria (really attenuated toxin) offers the risk of additional toxin or systemic impairment from invalidation of the centres.

While monosulphide of calcium has been given in gr. $\frac{1}{2}$ every half hour for a period of thirty-six hours, to children with the best of results, water should be partaken of freely to help elimination of the toxin. Locally, swabbing with a mixture of acid carbol., tr. ferri perchlor., glycerin and spts. rect. is advised.

Correspondence.

Origin of Word "Gabelle."

To the Editor of the Virginia Semi-Monthly:

Sir,—The following quotations from the new "Oxford Dictionary," on the word "Gabelle," may interest those of your readers who, like myself, had the pleasure of reading Dr. Rosse's interesting letter in your issue of September 23d.

"Gabelle, also gabel, gable, from the French *gabelle*, from the med. Latin *gabella*, a derivative from *gabulum*, *gabulum*, a tax, impost, * * *, old English, *gafol*, old Teutonic *gathulo*, is not found in the cognate tongues, but is a derivative of the common Teutonic root *gath* (old English *giefen*—girl). Latinized forms of the word are frequent in medieval documents in England and France."

"1413. *Pilgr Sosole*. Other counsellours of the Kyng * * *, have for to serve in special to gouvernauce of his proper goodes * * * gabelles and customes."

"1460. Fortescue. For wych cause the gabell of the salt, and the quatermines of the wyynes were graunted to the kyng by the iii estates off Fraunce."

"1523. Lord Beswess, *Froiss*. The thre estates ordenid * * * that the gabell of salt shulde ron through the realme."

"1631. Massinger, *Emperor East*. No man should dare to bring a salud from his country garden without the paying gabel."

"1645. Howell, *Letters*. England * * * having neither the gabells of Italy, the Tallies of

* Original Synopsis of a paper read before the Mississippi Valley Medical Association during its session in Nashville, Tenn., October 10-14, 1898.

France, or the Accise of Holland laid upon them."

"1681. Colvil, *Whigs Supplie*. Like Massanello freeing Naples from Gabels, put on roots and apples."

"1721. Stroype, *Ecll. Missen*. There being already many new imposts and gabels, beside the ordinary excise."

"1756. C. Lucas, *Ess. Watros*. In France***, on account of the heavy gabel or excise***, no man dares to purify salt for his own table."

"1794. J. Gifford, *Louis XVI*. This was no less than the total abolition of the Gabelles throughout France."

"1835. Lytton, *Rienzi*. A gabelle was put on wine and salt."

"1866. Rogers, *Agricul*. With Cambridge the levy of this gabelle is regular."

Jeremy Taylor uses the word in its figurative meaning. 1649. "Faith, Hope and Charity. No other gabels but the duties of a holy spirit."

Yours truly,

[GEORGE FOY.

7 Cavendish Row, Rutland Square, East, Dublin, Ireland, October, 1898.

Analyses, Selections, etc.

Utropine in Treatment of Cystitis.

Dr. T. Gordon Kelly, of Desford, Leicester, remarks (*Therapist*, October 15) that the main indication, in treating cystitis, is to render the urine antiseptic. Salol, ammonium benzoate, boric acid, guaiacol, resorcin, benzonaphthol, sodium salicylate, creosote, etc.—all render the secretion antiseptic, although none of them is a reliable and satisfactory agent. Utropine only, in his experience, has served satisfactorily. It is a non-toxic, non-irritant derivative of formic aldehyde made by the action of 4 molecules of ammonia on 6 molecules of formaldehyde—introduced by Nicolaier in 1895, who asserted that it dissolves uric acid concretions, and, when taken internally, it prevents bacterial development in the urine. According to Kelly, in cases of cystitis and phosphaturia, its action has been almost specific. Sometimes, if larger doses are taken, it causes a burning sensation in the bladder—although he has never seen such an effect. In a case which eminent men regarded beyond medical treatment, it was most brilliantly successful. In prescribing utropine, if the urine re-action is very acid, a little acetate or citrate of potassium,—or if very alkaline, a little dilute mineral acid should be given in addition to the

drug. He thinks utropine the most thoroughly reliable urinary antiseptic and astringent we have, and one that approaches most nearly to a specific for cystitis and allied affections.

Rifle-Ball in the Heart Thirty-Seven Years.

Dr. O. B. Beer, French Creek, W. Va., tells (*Cincinnati Lancet Clinic*, Nov. 19, 1898), of an autopsy made not long ago by Dr. G. O. Brown and himself on an old soldier who had been wounded by "bushwhackers" in 1861. The wound was made by a small rifle-ball of the kind used in muzzle-loading rifles. It had entered the thorax posteriorly on the left side, between the second and third ribs, and had ranged downward and inward, passing through the left lung and pericardium, and had embedded itself in the wall of the heart, near the lower part of the left ventricle. There had never been any disturbance of the heart in any way, and it seemed to be perfectly normal. The man, after recovering from the immediate effects of the wound, served till the close of the Confederate war, and has been a farm laborer ever since. Cancer of the arm was the cause of his death. The doctor retains the heart with the ball in it as originally found.

An editorial in the same journal calls attention to the case as one of the most remarkable to be found in the history of medicine and surgery. Such wounds are so uniformly fatal that much interest is attached to those cases which recover, or even in which the patient is not at once taken. The editorial then repeats the history of a case reported in the following interesting abstract taken from the London *Lancet*, 1876: "A French surgeon, in 1875, presented to the Paris surgical faculty the heart of a woman who had been shot with a revolver. The bullets measured three lines (quarter of an inch) in diameter. One of them passed through the right lung, had penetrated the heart by the posterior wall of the left ventricle, and was found to lodge in the latter. She lived eighteen days, and nothing during life led to the suspicion that such a lesion had taken place. Auscultation revealed nothing, and the pulse was regular. The hole made by the ball could hardly be discerned."

Orthoform for Sore Nipples.

According to *Medical Press and Circular*, November 23rd, 1898, Dr. Maygrier, of the Paris Maternity Hospital, applies the powder of orthoform to fissured nipples with the greatest relief of the patient. In all the 29 cases treated, the cure was complete at the end of five days, while in no case was the mother obliged

to renounce nursing. As orthoform possesses no toxic properties, it is harmless to both mother and child, and its advantages in treatment are obvious. The only disadvantage is that the drug is as yet expensive. The dressing is applied twice a day.

To Cure Whooping-Cough.

Dr. R. A. Lancaster, of Gainesville, Florida, Agent of the Florida State Board of Health, gives (*Florida Health Notes*, December, 1898,) the following formula for a ten-year old child, which he states controls and even cures and abates whooping-cough:

R.—Tinct. belladonæ.....f. 5j.
Phenacetin.....5ij.
Spts. frumenti (q. s. solve phenacetin).....f. 5j.
Fld. ext. castanea (chestnut leaves).....f. 5vj.

M.—S. Teaspoonful every two hours until face flushes; then every three, four, or six hours, as needed to control cough.

The size of dose of the above should be regulated according to the age or idiosyncrasy of the patient. By keeping the face flushed for three or four days, Dr. Lancaster says the attack of whooping-cough can be cut short.

Book Notices.

Pathology and Morbid Anatomy. By T. HENRY GREEN, M. D., Lecturer on Pathology and Morbid Anatomy at Charing-Cross Hospital Medical School, London. *New (8th) American from the Eighth and Revised English edition.* In one very handsome royal octavo volume of 600 pages, with 215 engravings, many being new, and a colored plate. Cloth, \$2.50 net. Lea Brothers & Co., Publishers, Philadelphia and New York. 1898.

It is a matter of regret that this thoroughly revised and up-to-date edition of Green's *Pathology* was not issued in time for more general announcement as the text-book in college catalogues. The present edition is, however, as valuable to the practitioner as to the student. As compared with the former edition, very many important changes have been made, necessitated by the advanced discoveries and teachings of the day. Many new illustrations have been introduced; much re-arrangement of chapters, and new terms have supplanted old ones, while additions have been made to several classes—thus, in brief, making this an almost entirely new book. The work is, however, too well known to require more than the announce-

ment of this new improved edition, and the calling of attention to the remarkably small price (\$2.50 net) at which the book can be purchased of the publishers.

Manual of Otology. By GORHAM BACON, A. B., M. D., Professor of Otology in Cornell University Medical College, New York, etc. *With an Introductory Chapter by CLARENCE JOHN BLAKE, M. D., Professor of Otology in Harvard University. With 110 Illustrations and a Colored Plate.* Lea Brothers & Co., New York and Philadelphia. 1898. Small 8vo. Pp. 398.

There is demand for such a book as this to serve the wants of the general practitioner as well as the purposes of a class-room book on otology. It has the merit of practicability in a positive degree, which makes it useful on many occasions. It does not claim to be an exhaustive work either as to the number of diseases of the ear or as to the literature of the diseases of which it treats. But guided in the selection of material by the results of the author's experience, a sufficiently full consideration is given to those particular diseases of the ear with which the practitioner is apt most frequently to meet. One of the most interesting and instructive conditions fully discussed, so far as the general practitioner is concerned, is brain abscess, lepto-meningitis, etc.—detailing their relations to diseases of the internal ear. The profusion of illustrations gives the book a special value.

Accident and Injury—their Relations to Diseases of the Nervous System. By PEARCE BAILEY, A. M., M. D., Assistant in Neurology, Columbian University; Consulting Neurologist to St. Luke's Hospital, New York, etc. New York: D. Appleton & Co. 1898. Cloth. 8vo. Pp. 430.

This work—intensely interesting and instructive throughout to physicians and surgeons—refers rather to those nervous effects of accident and injury which come under the head of "functional diseases." The first parts of the book relates to "the simpler methods of examination of patients—the subjects of accident and injury—to the causes and effects of acute organic injuries to the nervous system," and to "a consideration of in how far accidents may be held responsible for the appearance of certain chronic degenerative diseases." Full consideration is given to the question of malingering. This book will prove of special value to all surgeons in charge of railroads, factories, machine shops, etc., in which claims for damages because of accidents, etc., are most apt to arise. It is likewise a

book of very great value to the medical jurist, to attorneys in connection with claims for accidents, etc. The well selected illustrations throughout the book are true to life—and the many diagrammatic illustrations are aptly drawn and greatly help to a proper understanding of the subject in hand.

Hygiene of the Voice. *With 27 Illustrations.* By THOMAS F. RUMBOLD, M. D., Member of the St. Louis Medical Society, etc. St. Louis, Mo. Witt Publishing Co. 1898. Paper. Small 8vo. Pp. 114. Price, 50 cents.

It may not be generally known that the author was the first medical man in America to limit his practice to the treatment of diseases of the nose and throat, and has ever since maintained the eminence of leadership in that specialty. He has written this monograph from a scientific standpoint, and yet in language so plain that even the laity can understand, if they use the full glossary appended to the book. But to the doctor, the book specially commends itself, for it points out a number of facts which are scarcely to be found so clearly stated in larger works. For instance, the author teaches that "all persons of large stature, who have tenor voices, had excessive inflammation of the larynx while they were children." But space allows us only to commend the book in its entirety. It is a monograph that should be had by all doctors, and is remarkably cheap—50 cents.

Care of the Baby. By J. P. CROZER GRIFFITH, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania, etc. *Second Edition. Revised.* Philadelphia: W. B. Saunders. 1898. Small 8vo. Pp. 404. Cloth. \$1.50.

This is a practical work by a man of large experience and careful observation. Its title page tells us that it is "a manual for mothers and nurses, containing practical directions for the management of infancy and childhood in health and disease," and this pretty well describes the book. While there is a great deal of useful information in its pages that it would well pay the doctor to learn, it is as a handbook that we specially commend it. It is not intended in any way to take the place of the physician. On the contrary, the author urges that the mother should promptly call in the aid of the physician; but until he can be got, the book tells the mother and the nurse what is best to do. And when he has come, this book is further recommended, not in any way to take the place of the advice of the doctor, but to enable the prescriptions and the direc-

tions to be more intelligently followed. Such a book, in the hands of an intelligent mother or nurse, is a very decided help to the doctor, and we wish some word of ours could induce our readers to recommend it to their better informed class of maternity patients.

Diseases of Women—A Manual of Gynecology. Designed especially for the use of Students and General Practitioners. By FRANCIS H. DAVENPORT, M. D., Assistant Professor of Gynecology in the Medical Department of Harvard University, Boston. *New (3rd) Revised and Enlarged Edition.* 12mo. 387 pages, with 155 illustrations. Cloth. \$1.75 net. Lea Brothers & Co., Philadelphia and New York.

Gynecology is making rapid advances, as indicated by each successive edition of a standard work like this. While subjects are briefly treated, there is no lack of clearness, and the present work is made to cover the whole domain of the more important diseases of women—the rarer diseases being omitted. But it is full enough for all practical purposes of the student, and for the general run of the general practitioner's work. Questions of pathology have been purposely largely omitted in order to allow more space for the practical intent of the work—in making the proper diagnosis and in directing the appropriate line of treatment—medical and surgical. The illustrations—mostly diagrammatic—are well selected, and materially help where verbal descriptions cannot serve the purpose satisfactorily. In its new print, it is a neat book, and has a good index for ready references. The book is thoroughly up to date so far as the size of the book can permit.

Tapeworms of Poultry. Prepared under the direction of Dr. D. E. SALMON, Chief of the Bureau of Animal Industry. Issued July 11, 1896. Washington: Government Printing Office. 1896. Paper. 8vo. Pp. 88.

This is Bulletin No. 12, Bureau of Animal Industry, containing a "Report of the Present Knowledge of Tapeworms of Poultry. With 276 Figures on 21 Plates," by Ch. Wardell Stiles, A. M., Ph. D., Zoologist Bur. of Anim. Indus.; also "Bibliography of the Tapeworms of Poultry," by Albert Hassall, M. R. C., U. S. It is fortunate that "none of the tapeworms of birds are transmissible to man in any stage of their development, and the presence of tapeworms in the intestines of fowls does not in itself warrant the condemnation of their bodies as an article of food." "The proper care of the manure from infected fowls is unquestionably the most important preventive measure against tapeworm disease." The book is of special value to farmers and poultry raisers.

Compend of Obstetrics. By HENRY G. LANDIS, A. M., M. D., Late Professor of Obstetrics and Diseases of Women, Starling Medical College. *Revised and Edited* by WILLIAM H. WELLS, M. D., Adjunct Professor of Obstetrics and Diseases of Infancy in Philadelphia Polyclinic, etc. *Sixth Edition. Illustrated.* Philadelphia: P. Blakiston's Son & Co. 1898. Large 12mo. Pp. 188. Cloth. Price, 80 cents *net*.

This No. 5 of Blakiston's Quiz Compend, based on the most popular text books and lectures of prominent professors, recently revised and neatly illustrated, and is especially adapted to the use of medical students in any college, and physicians who may be in a hurry to pick up the latest information in a nutshell. What had become obsolete in former editions is omitted from this, while the latest advances in obstetrics have all been noted in the present edition. The book being compiled from many authors contains a great deal that is not mentioned by some; so that it also becomes a book of instruction to the physician as well as to the student.

Editorial.

The Virginia State Board of Health

Held its fourth quarterly meeting for 1898 in Richmond, December 1st. This board is doing much valuable work for the State which is not generally known. Small-pox was promptly abated in some of the mining points in the southwestern district by the efficient action of this board. Investigations—bacteriological and otherwise—as to the cause of typhoid fever at one of the Virginia summer resorts—proved that it was not of local origin. Influenza in mild, though troublesome form, is quite prevalent in various sections of the State where it was epidemic three or four years ago. Enough has been done by this board to show its usefulness and to point to the possibilities of its achievements if the State were to appropriate a sufficient sum to enable it to do some original work. Dr. Paulus A. Irving, Richmond, Va., is the efficient secretary, and Dr. R. W. Martin, Lynchburg, Va., the president.

The Medical Society of the Carolinas and Virginia.

The Tri-State Medical Society of North Carolina, South Carolina and Virginia, was organized August 31, 1898, at Virginia Beach, with temporary officers as follows:

Dr. W. W. H. Cobbs, Goldsboro, N. C., President.

Dr. H. H. Dodson, Milton, N. C., Treasurer.

Dr. Paulus A. Irving, Richmond, Va., Secretary.

A circular setting forth the object of the Association was issued in October, stating that the first meeting would most likely be held in some central city of North Carolina about November 22, 1898.

As the time approached, it was deemed advisable to postpone this meeting to a later day, on account of the political troubles in the Carolinas and the proximity to Thanksgiving day.

Charlotte, N. C., Wednesday, January 18th, 11 A. M., 1899, has been definitely decided upon as the place and time of the meeting for permanent organization.

Dr. E. C. Register, of Charlotte, N. C., has been appointed Chairman of the Committee of Arrangements, and promises a cordial welcome to all who may attend.

The Central Hotel, near the hall of meeting, will be the headquarters for the members of the Association, and has given a rate of \$2.00 per diem.

The Southern Railway and Seaboard Air-line roads, which traverse both North and South Carolina and Virginia, have promised reduced rates, which will be definitely stated in the Arrangement circular, which will be issued shortly.

Considering the short time and the little effort that has been put forth, a flattering membership has been enrolled—54 from Virginia, 42 from North Carolina, and 17 from South Carolina. Total membership at this time, is 113.

Nothing in this organization can be construed as interfering with or substituting either of the three State medical organizations—for a prerequisite for membership in the Tri-State Society will be that the applicant must be a member in good standing of his respective State Medical Society.

A number of papers have been promised by prominent members of the profession from the three States, and an interesting programme will be presented.

Application for membership may be sent to any one of the officers of the temporary organization, or forwarded to the Association in session at Charlotte, N. C., January 18–20, 1899.

Color of Negro Infants.

It is startling to see some assertions in scientific medical journals made with the appearance of belief in their truth. Such items, of course, soon become popular errors, which takes time to correct. Our attention is called to this matter by a note in the *N. Y. Medical Journal*, December 3, 1898, which states: "In our issue for July 16th, we quoted from *Pedia-*

trics, etc., for July 1st a statement by Dr. Farabery that "the negro baby, at the time of its birth, is exactly the same color as its white brother." *Pediatrics* for November contains a series of letters on this subject, all of them traversing Dr. Farabery's assertion. Dr. John H. Claiborne, who has practiced for forty-eight years in the "black belt of Virginia," states that he has seen thousands of negro babies, but has yet to see a white one. Even the cross of the white man upon the negro woman, he says, does not produce a white baby. In an unsigned letter, dating from New Haven, Mo., the writer says that "the color of the newly-born scion of African parentage, whether of immediate or remote descent, is not the same as that of the Caucasian or American. It is a sallow or creamy white without the pink glow or tinge that marks the scions of Caucasian origin. The color of certain organs will give evidence of a trace of negro blood until an almost homeopathic dilution is reached." He takes issue with the French physician that there ever appears "a tender pink color" if the slightest trace of African or negro blood is present. The "tanned leather" hue, familiarly known as "saddle color," belongs exclusively to a mixture of the white and black races. The pink, rosy hue of the cheek of the Caucasian has never been seen in the cheek of one having even one-eighth of negro blood in his veins. He believes the African blood can be distinguished in certain organs to the sixteenth dilution. Dr. T. L. Robertson, who has been practicing in Alabama since 1858, states that in his experience babies born of negro parents are black, some of them very black, while those born of mulattoes or mixed bloods vary according to the predominance of the race.

To Southern practitioners, the statement attributed to Dr. Farabery would show that he knows nothing about the subject of which he writes. We have never seen nor heard of a negro baby that even at its birth could be mistaken for a white infant. The profession of the South would, no doubt, without exception, endorse the statements of Dr. J. Herbert Claiborne, of Petersburg, Va., and Dr. Thaddeus L. Robertson, of Birmingham, Ala.

The American Electro-Therapeutic Association

Held its eighth annual meeting in Buffalo, N. Y., September 13-15, 1898. It was well attended, and altogether successful. The welcome to the city was given by the Mayor, Dr. Conrad Diehl. Dr. Charles R. Dickson, the President, by adhering strictly to the time limit, made it possible to get through quite a

lengthy program of about twenty papers and discussions. This Association, beside Canadians and doctors from the United States, is annually honored by the visit of a number of Europeans, who contribute to the success of the session. Thus, papers were presented by Drs. Apostoli, Bergonnie, Teissier, Gautier, and Larat, all of Paris, France; Dr. Felice de Forre, of Rome, Italy; J. I. Parsons, and C. Slater, of London, England. All the papers presented seem to have been of the highest order of merit. The officers-elect for the current year are: *President*, Dr. Francis B. Bishop, Washington, D. C.; *Vice Presidents*, Drs. Ernest Wende, Buffalo, N. Y., and W. H. White, Boston, Mass.; *Secretary*, Dr. J. Gerin, Auburn, N. Y.; *Treasurer*, Dr. R. J. Nunn, Savannah, Ga.; *Executive Council*—for three years—Drs. R. Newman, New York, and G. B. Massey, of Philadelphia; for two years, Drs. A. D. Rockwell and Wm. J. Morton, Philadelphia; for one year, Drs. C. R. Dickson, Toronto, Ont., and F. Schavoir, Stamford, Conn. *Washington, D. C.*, was selected as the place for meeting of the ninth annual session, September 19-21, 1899.

A resolution was passed urging colleges and medical schools to establish chairs on electrotherapeutics, or to devote more time and attention to teaching this branch, and it was decided to call the attention of the Association of American Medical Colleges to the necessity for such a step.

An excellent exhibition of electrical apparatus was held in a room adjoining the hall of meeting, and proved a very attractive feature. The entertainment arrangements throughout were of the best; no effort seemed to have been spared to ensure the comfort and enjoyment of members and their guests. The chief fault found with the program of entertainment was that it was simply impossible to get through it all.

Isolation and Disinfection in Restriction of Communicable Diseases.

Dr. Henry B. Baker, of Lansing, Secretary of the Michigan State Board of Health, is constantly rendering invaluable sanitary service. He has recently compiled tables from reports made by Michigan local health officers, exhibiting the average number of cases and deaths per outbreak of some communicable disease in which both isolation and disinfection were neglected; and in which both were enforced. With reference to typhoid fever in the seven years, 1890-'96, where isolation and disinfection were neglected, there were, per outbreak, 7.77 cases

and 96 deaths. Where isolation and disinfection were enforced, there were, per outbreak, only 2.43 cases and 0.34 deaths. During the ten years 1887-1896, in 900 outbreaks of *scarlet fever* where isolation and disinfection were neglected, the scale represents 12.79 cases and 0.51 deaths; where these were enforced, the scale shows 2.25 cases and only 0.10 deaths. In the same period, of 576 outbreaks of *diphtheria* in which isolation and disinfection were neglected, the scale shows 13.01 cases and 2.71 deaths; while in 649 outbreaks in which both were enforced, the scale shows only 2.12 cases and 0.47 deaths. These ratios should be kept constantly before the eyes of physicians and citizens of various States and cities, who should never let their legislators or councilmen alone until they fully provide ways and means to perfect their State and local boards of health. Why chambers of commerce, boards of trade, and other like business organizations cannot be actively aroused so as to compel proper legislation is a mystery. The above figures indirectly show how great a saving to business may be effected by suitable laws. The business losses caused by a single preventable epidemic or endemic are enough to put boards of health—State and local—in position to command the situation.

Standing of Graduates before Medical Examining Boards.

The *Medical and Surgical Bulletin*, September, 1898, gives some figures as to the standing of graduates before some Southern Medical Examining Boards. For instance, of 16 graduates from one college who have applied, only 5 passed and 11 were rejected. This same college, which has a popular set of professors and has had a good run in its day, has had 18 of its graduates to apply for examination before the Virginia Board since 1885, and only 9 passed on first examination. But worse than that, there is a college of large patronage which has had 9 of its graduates to apply for examination before the Virginia Board since 1885, and all 9 have been rejected on first examination. It is time all such colleges were either closing their matriculation books or else had determined on a satisfactory grade of standing for their graduates. It is an imposition upon the credulity of students to ask them to matriculate in such colleges, offering them easy terms of graduation—well knowing that such standards of graduation as they have established are not sufficient to secure them licenses to practice before the several State Boards of Medical Examiners.

Antivivisection Congressional Bill.

Our readers are no doubt familiar with the general tenor of the "antivivisection bill," which a parcel of cranks are trying to get passed by the U. S. Congress. We are advised that these cranks are working diligently upon congressmen to impress them with the idea of causeless cruelty done by vivisectionists, etc. The common instincts of humanity, of course, revolt at the sight of causeless cruelty. But common experience proves that scientists are not cruel in their nature, and are not disposed to acts of wanton cruelty. The physiologist, however, cannot well proceed with his humane work of studying the functions of muscle, nerve and organ without having recourse to animal vivisection. It would be just as sensible to pass a law to prohibit the cooks from wringing the head off chickens, or to prohibit the huntsman from wounding his game. The idea that a body of men like congressmen could be induced to pass the so-called antivivisection bill is a reflection upon their common sense. The possibility of the success of the antivivisection bill consists only in the fact that congressmen may be unaware of the general effect of the bill unless their attention is called to it; and it is well, therefore, for all doctors, as all other scientists, to call the attention of their respective Senators and Representatives to it, and put them on their guard to prevent its passage.

Information Wanted About Dr. Abijah Tufts.

Dr. Abijah Tufts, graduate of Harvard College in 1796, married and removed to Virginia, where he practised medicine till his death in 1815. He left three daughters. Dr. Edward C. Booth, of Somerville, Mass., gives us the above item, and is anxious to get a clue as to in what part of the State Dr. Tufts settled. He is anxious to obtain some trace of the family and their future history. Any hint that may enable Dr. Booth to find out the facts, will be gratefully received by him.

Casualties of the American-Spanish War.

Reports of the Adjutant General of the U. S. Army, dated September 30, 1898, show that the mean strength of the U. S. Army was about 275,000 men—regulars and volunteers—in camp in various parts of the United States, in Cuba, Porto Rico, the Philippine Islands, etc. Of this number, from the beginning of the war till the date of the report, there were about 345 killed and died of wounds, and 2,485 who died of disease. This estimate includes a period of about four and a half months.

Influenza

Has been quite prevalent in a number of cities during the past month. In Richmond, there have been many cases, though no deaths distinctly attributed to it. It is affecting mostly those who have had the disease almost annually during the past few years. Although the attacks of this year are relatively mild, they are severe enough to keep business men away from their places of business, and thus causing loss of time which is loss of money, and in many cases it is impairing health. Phenacetin, or better still, antikanmia, with salol or quinia, and a little powdered digitalis added, has proved a satisfactory plan of treatment—presupposing, of course, that the bowels are kept open, the secretions of internal organs are attended to, and that the patient is kept indoors—especially at night or in bad weather. Our object, however, is to note the general prevalence of grippal conditions so that the practitioner may be on his guard as he makes professional rounds.

Postponement of Third Pan-American Medical Congress.

In April last, Dr. José Manuel de los Rios, of Caracas, Venezuela, Chairman of the Committee on Organization of the Third Pan-American Medical Congress, requested that, in consequence of the then existing rebellion in Venezuela, the meeting of the Congress be deferred. Since the ending of the rebellion, small-pox has scourged that country; and he now requests Dr. Chas. A. L. Reed, of Cincinnati, Ohio, U. S. A., Secretary of the International Commission, to postpone the session appointed for December, 1898, to meet instead in Caracas during December, 1900.

Surgical Intervention

Is the term which the *Richmond Journal of Practice*, November, 1898, announces it will hereafter use instead of the misnomer "surgical interference." It is strange how such misnomers become popular, and grow into common usage even by those who know better. There appears to be no lexicographical authority for the use of the term surgical "interference."

Medical Department—University of Nashville

Announces its change from a three year's to a four year's course, beginning this session. In a table published in the official organ of this University, there is a good showing of the standing of its graduates before some of the Southern Examining Boards—only two rejections of 29 who applied for examination.

Government Military Hospital at Savannah, Ga.

We learn from the *Maryland Medical Journal*, November 12th, that the U. S. Government has secured at Savannah, Ga., a tract of twenty-one acres of ground for the purpose of constructing an army hospital. Forty-nine buildings are to be promptly erected at a cost of nearly \$200,000. It is the intention that the establishment shall cover the whole tract, and will be the largest hospital maintained under the auspices of the Government.

The Southern Surgical and Gynecological Association

Was in annual session in Memphis, Tenn., December 6th, 7th and 8th. The program was received too late to get it in the last issue of this journal. It is a remarkably interesting program, and reflects great credit upon its able Secretary, Dr. W. E. B. Davis, of Birmingham, Ala.

The Association of Southern Medical Colleges

Was in session in Memphis December 6th and 7th. The Medical College of Virginia was represented by its Dean, Dr. Christopher Tompkins, and Dr. Geo. Ben. Johnston. The important issue to be decided was with reference to the four years' graded course. We shall look with interest to the decision with reference to this long-vexed question. We think the time has come to adopt the course.

Obituary Record.

Dr. Thomas W. Simmons

Died rather suddenly at his home in Martinsville, Va., November 15, 1898. He was born in Floyd Co., Va., September 29, 1860. After receiving an academic education at Oxford Academy, he studied medicine at the Medical College of Virginia, from which he graduated in the spring of 1884. He joined the Medical Society of Virginia in 1885, and took active interest in its sessions. In 1896 he was elected a Vice-President. He also served a term of four years as member of the Medical Examining Board of Virginia. Dr. Simmons was one of the leading practitioners of his section, and was universally popular.

Dr. H. M. Keyser

Died at his home in Honeyville, Page county, Va., during the first week in November, aged 67 years. He was not a member of his State Medical Society.

THE Virginia Medical Semi-Monthly.

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Original Communications.

URÆMIC ASTHMA.*

By JOHNSON ELIOT, M. D., Washington, D. C.

The existence of renal asthma is a mooted question, many of our foremost authorities denying its existence. The *Index Medicus* does not classify it as an independent disease, nor spasmodic asthma even as a complication of Bright's disease. This being the case, it is the duty of every practitioner to add to its literature by reporting undoubted cases falling under his care.

Whereas asthma is seldom mentioned in renal troubles, dyspnoea, often severe and distressing, is frequently seen, but the two should be separated as distinct affections.

Among the few articles bearing on the subject is one by George Johnson, of London, and another by O. Fairfax, both written some years since. In Dr. Fairfax's case; the asthma was without premonition, nor were there lesions of the bronchial tubes or of the heart, and it could not be accounted for until a urinary analysis was made, which showed albumin, casts, and deficient urea. Dr. Johnson treats the subject in a general manner.

There are many theories of asthma which I will not discuss. I regard it as a neurosis, depending on irritation reflected from other parts of the system; it may be from the bronchial tubes, or the heart, the gastro-intestinal tract, or the Schneiderian membranes, nasal polypi, or cartilaginous spurs of the septum.

We occasionally meet with asthma in persons in whom none of these lesions are found, the disease being then usually ascribed to an inherited neurotic condition, and possibly to causes as yet unrecognized.

Asthma is essentially a spasmodic condition of the bronchial tubes, this being borne out by

clinical and pathological evidences. The tubes are lined with muscular fibres plentifully supplied with nerve filaments; these fibres have been made to contract under stimuli. Suddenly, there is an accession of asthma without pathological lesions to account for it; again, where there are lesions asthma is not an invariable accompaniment. As the attacks terminate, the tubes relax and the breathing becomes easier, still the chest trouble remains, the attack to be repeated after several hours or days, and those remedies which cause relaxation of muscular spasm are the ones giving most satisfactory results.

In presenting this paper, my object is to invite discussion, to insist that spasmodic asthma occurs in renal troubles, and distinguish it from dyspnoea, with which it is often confounded.

Dyspnoea, as generally accepted, is simply difficult or impeded respiration. All asthma is dyspnoea, but, on the other hand, dyspnoea is not always spasmodic asthma.

The onset of dyspnoea, unless due to acute congestion or oedema of the lungs, is usually gradual; it is persistent, and marked on slightest exertion. In cardiac and renal affections, not until the later stages, if the patient remains quiet, does it amount to more than a serious inconvenience.

Auscultation in dyspnoea will show the breathing quick, shallow, and without force, generally accompanied by moist râles. When due to congestion or oedema, dulness will be disclosed on percussion and bronchial secretion is present.

Both congestion (passive) and oedema are secondary to other affections. The dyspnoea of acute bronchitis or pneumonia is accompanied with fever, and we have cough and other symptoms to guide us.

In cases where the onset is gradual, investigation will reveal cardiac or pulmonary lesions or atheroma of the larger vessels.

Difficult breathing is frequent in laryngeal affections; ordinarily, there is the history of

*Read at a meeting of the Medical and Surgical Society of the District of Columbia, November 3, 1898.

arrest of foreign bodies or formation of membrane or hoarseness.

From what has been said, many of the causes to which dyspnoea and asthma have been attributed are found in chronic nephritic troubles. Here there is the gastric irritation and dyspepsia, always the cardiac hypertrophy, the hardening of arteries, and the bronchial involvement. This being the case, why, when so many acknowledged causes of asthma are present, is it that all respiratory difficulty occurring in chronic nephritic troubles should be classed as dyspnoea and the existence of spasmodic asthma denied.

Dr. James Tyson, *Practice of Medicine*, states among the symptoms of chronic renal disease uræmic asthma, as it is called. This asthma differs from bronchial asthma in the absence of spasmodic contraction; he thinks this frequently cardiac, due to heart failure, the result of dilatation succeeding on hypertrophy.

Again that, while spasmodic asthma may be produced by uræmia, it is exceedingly rare, but to this only should the name uræmic asthma be applied.

It is to this variety that the following history belongs:

G. Z., white, male, age 62 years. Until ten years ago, led an active life in U. S. Cavalry, from which he was retired for injury. Then devoted himself entirely to scientific pursuits, and has led a sedentary life. During this time, with the exception of an attack of pneumonia, his health remained good.

In January, 1896, came under my care suffering from dyspepsia, slight nasal and pharyngeal catarrh, and with elongation of uvula, which was removed. Further treatment was unnecessary.

September, 1896, after a vacation spent in the mountains, was again seen; has been free from sickness, yet had noticed great diminution of strength, and would easily get out of breath, as he weighed 210 pounds; little concern was given this last.

Physical examination showed a hypertrophied left ventricle, pulse of high tension, hardening of the radial arteries, neither cough nor œdema, and entire absence of bronchial involvements.

Urinary analysis, entire day's urine, specific gravity 1014, quantity increased, urea about normal, albumin by volume 10 per cent., and a few hyaline casts. Was placed on a milk-diet, and given ox-gall, mist. ferri et ammonii acetatis, and 1 per cent. solution of nitro-glycerin. He remained fairly easy under this treatment, but rapidly lost flesh. The excretion of

urea had notably diminished; œdema effect at first slight; increased later.

Early in the evening of September 27, 1896, without premonition, had an asthmatic seizure. It was supposed to follow an indiscretion in eating. About the same hour on the second day the attack was repeated, and recurred at this interval for four or five attacks; a malarial infection was suspected, but treatment directed to this end was without result. The urea was now very deficient, especially on those days on which the attacks occurred. The urine was not examined every day, but frequently; the connection of lessened quantity of urea and asthma was noticed.

The attacks would come on suddenly; last half an hour to an hour; the suffering would be intense; no evidences of œdema or moist râles could be found. The sibilant and whistling râles could be distinctly heard several feet away; their position was constantly changing from one lobe to another, and altogether expiratory.

A peculiarity was that these attacks would invariably end in an attack of sneezing instead of terminating with the usual cough and expectoration. After these attacks, the patient would be so little affected that frequently he would immediately go either to his club or to the theatre.

The total amount of urine became lessened, and, in addition to the hyaline, granular casts were found. There was total loss of vision in the left eye, which returned in about four days. Electricity was tried, but while being used the attacks came on every evening always between 7 and 8 o'clock.

Drs. Leonard Wood and Kober were called in consultation, and change to warmer climate urged.

In January, 1897, I accompanied him to Florida. On leaving Washington, the breathing was short—the limbs very œdematous.

The trip greatly fatigued him, but the dyspnoea largely and the asthma entirely disappeared, and did not recur, notwithstanding a slight bronchitis was contracted in the sleeper.

Early in February he died, after having remained for three hours in a comatose state.

The treatment followed well-beaten tracks. Amyl nitrite, compound spirits of ether, chloroform, jaborandi, pilocarpin, sweating, and elaterium, or compound jalap powder. Caffein was found to be so stimulating to the kidneys that its effects on respiration could not be investigated.

718 H Street N. E.

CASES OF (I) REMOVAL OF IMMENSE OVARIAN CYST—DOUBLE PNEUMONIA—RECOVERY.—(II) DERMOID CYST COMPLICATING DELIVERY SEVENTH MONTH.*

By R. R. KIME, M. D., Atlanta, Ga.

CASE 1.—Immense Ovarian Cyst—Removal—Double Pneumonia—Recovery.—This paper reports the removal of an ovarian cyst containing five gallons of fluid from a small, slender girl, just seventeen years of age. The cyst was of rapid growth—it being only ten months from the time the swelling was first noticed by the patient until its removal. The patient was under observation five days before the operation, during which time there was a perceptible increase in the size of the tumor each day, noticed independently by the physician, nurse and the patient herself.

On opening the abdomen, the cyst was found to be adherent to the omentum, and was tied off at three points. It was also adherent to the parietal peritoneum at a point where there was acute inflammation, with suppuration, to the extent of half a pint or more of pus. The tumor had a broad pedicle, which was tied off in three sections from the left broad ligament. The right ovary was found to be normal, and was not removed.

The patient had a variable, weak, rapid pulse, and an elevation of temperature before the operation. On the third day after operation, double pneumonia developed, but under treatment the acute symptoms soon subsided, and the lungs gradually cleared up. Yet, before complete recovery resulted, the patient returned home five weeks after the operation.

CASE 2.—Dermoid Cyst of Ovary Complicating Delivery at Seventh Month.—The paper also reported a case of dermoid cyst of the right ovary, complicating delivery at the seventh month of pregnancy of a multipara. The doctor was called only after the patient had been in labor three days. He placed the patient in an exaggerated Sims' position, and with his hand forced the tumor—what after proved to be a dermoid cyst—up out of the pelvis sufficiently to allow the fetal head to pass, after which the patient was delivered within thirty minutes.

This delivery occurred in March, and he did not see the patient again until July, when she was referred back by her family physician.

Examination revealed a semi solid mass filling the pelvis, and crowding the uterus for-

ward almost above the pubes. The tumor was about the size of a child's head, was inflamed, tender to pressure, adherent, and immovable. The uterus itself was enlarged, somewhat softened, and slightly discolored. The conditions were such as to justify the diagnosis of a suppurating dermoid cyst with pregnancy.

The patient refused operative intervention until September, when her condition was plainly septic—manifested by chills, fever, pain and anemia.

This condition forced her to submit to vaginal incision and drainage as a life-saving measure. Three pints of cheesy, purulent material, containing locks of hair, was removed. Eight days after this operation, the patient miscarried. This result was brought about by the getting up of the patient and walking to the closet while the nurse happened to be out of the room.

A four and a half months' fetus was found in the vagina. The placenta was retained, and there was free hemorrhage. The uterus was rapidly cleared with the aid of instruments, and tamponed. By the time this was done, however, the patient was pulseless and unconscious. But under the use of hypodermics of strychnia, the free use of saline injections, and the administration of stimulants, the patient rallied, and finally recovered, without leaving any sign or symptom of septic or putrid infection involving the uterus. Draining of the cyst with tubes was kept up for some time, when the tubes were removed.

Nearly all evidences of the cyst were soon obliterated, and there has been no appearance of cystic accumulation since.

Treatment of Laryngeal or Winter Coughs.

Dr. Walter M. Fleming (*Jour. Nerv. and Mental Dis.*), says that, in acute attacks of laryngeal or winter cough, tickling and irritability of larynx, antikamnia and codeine tablets are exceedingly trustworthy. If irritation or spasm prevails at night, take a tablet, containing $4\frac{1}{2}$ gr. antikamnia and $\frac{1}{2}$ gr. sulphate codeine, an hour before retiring and repeat hourly until the irritation is allayed. Allow the tablet to dissolve slowly in the mouth, swallowing the saliva. After the second or third tablet the cough is usually under control, at least for the night. In neuralgia—in short, for the multitude of nervous ailments—he doubts if another remedial agent is so reliable, serviceable and satisfactory, and this without establishing a "habit," as morphine does.—*N. Y. Med. Jour.*

* Original abstract of a paper read by title before the Southern Surgical and Gynecological Association during its annual meeting in Memphis, Tenn., December 8, 1898.

THE CONSERVATIVE TREATMENT OF THE DISEASED OVARY.*

By JOSEPH TABER JOHNSON, M. D., Washington, D. C.

President of the Southern Surgical and Gynecological Association; also of the American Gynecological Society, etc.

The difference between the radical and conservative treatment of the diseased ovary is somewhat difficult to define; inasmuch as the most radical treatment under some circumstances is really the most conservative. While in other cases, to conserve the best interests of some particular diseased ovary, requires the most radical surgery.

In the early part of the present decade, quite a conservative wavelet swept over the country, and considerable harm was done to pelvic and abdominal surgery in the mild and gentle name of conservatism. Incomplete conservative operations were done, some of which had to be completed later on by radical operations.

Some of the men who claimed to be the most conservative, and attracted the timid doctors and frightened patients, were actually removing more ovaries and tubes than many of their so-called radical friends. Much credit has been claimed for saving a part or the whole of one ovary and tube when only a simple catarrhal salpingitis existed, by an operator posing before the profession and community as a conservative, when the surgeon designated a dangerous radical, to be avoided, would actually not have operated at all, and would probably have cured his patients by other means.

In some instances, real genuine, successful, and beneficial conservatism has been practiced with lasting beneficial results, but not always from the highest and purest motives.

And again it has been charged that actual radicalism has successfully masqueraded in the name and guise of conservatism, to the injury of the trusting patient and the discredit of good surgery, but let us hope these instances have been few and far between.

With the wonderful improvements in abdominal surgery within this generation, more and more has been learned in regard to the toleration of the peritoneum.

Former fears of opening and manipulating within its cavity have well-nigh disappeared, so that now the chief objection in the minds of many to an abdominal section has come to be not so much from what is done within the abdominal

cavity, but as to how it is to be closed, when the operation is finished, so as to prevent the occurrence of ventral hernia. Thomas Addis Emmet said two decades ago that the danger in abdominal surgery was not so much from what was taken out of the peritoneal cavity as from that which was introduced into it during an operation.

But, now-a-days, instead of spending valuable time in sponging out every drop of blood, or other fluids, or putting in a drainage tube, we frequently flood the cavity with quarts of the normal salt solution, thus diluting and spreading the residual fluids over a greater area of absorbing surface, warming up the somewhat cooled abdominal viscera, floating the intestines away from any overlooked raw surfaces, and at the same time performing an actual transfusion.

So much has been learned by accumulating experiences as the domain of the gynecologist has undergone so much "expansion," to borrow a term which has acquired a new significance in the recent history of our country, that real conservatism is gradually gaining ground over real radicalism to such an extent that he who presents ovaries and tubes, or a fibroid uterus, in a modern up-to-date medical society, has to state very good reasons why he sacrificed these important organs in their entirety to escape criticism and, possibly, censure.

Since Battey suggested normal ovariectomy for the relief of many of the uncontrollable nervous and painful symptoms accompanying the menstrual molimen in 1872, and Lawson Tait in the same year the removal of the uterine appendages for chronic inflammatory and suppurative diseases of those organs, and Heger, in Germany, about the same time recommended the complete removal of the ovaries and tubes for arresting the growth and hemorrhages of fibroid tumors of the uterus, many of these important and special organs of sex in the female have been sacrificed, which accumulating experience and the improvements in abdominal surgery now make it possible to save. For a score of years, Battey, Heger, and Tait, set the pace in three of the greatest countries of the globe. Radical operations were the rule. So great was the fear of opening the abdomen that when it had been once opened for the removal of an ovarian tumor and the appendages on one side, the other ovary was too often removed also, if it showed any signs of being even slightly diseased, and in not a few instances the only reason given for its sacrifice was that it might some day become diseased, and had, therefore, better come out while the

*Original abstract of paper read before the Southern Surgical and Gynecological Association, held in Memphis, Tenn., December 8, 1898.

opportunity afforded without increasing materially the danger or expense of the patient.

In this field, I am proud and happy to say that sacrificial surgery is gradually giving way to more conservative and humane methods. I believe there is a maxim in general surgery in favor of saving every inch of the human body possible, and another that it requires a higher order of skill to save a mutilated or diseased member than it does to cut it off or to cut it out.

With my limited experience, even in abdominal surgery of only about 600 cases, I am free to confess that I can now save ovaries and tubes which I formerly thought it necessary to totally remove. The increasing skill of our abdominal surgeons and their accumulated experiences in actual conservative work, goes to show that we are approaching nearer to that true conservatism which is the offspring of increased skill and experience, and is not that kind of clap-trap conservatism which has been paraded as a by-play to the galleries and publicly used as a means of attracting practice and increasing profits.

It is just as true in abdominal surgery, if not more true, that it requires a higher order of skill and a greater experience to save an organ, or part of an organ, than it does to remove it. This statement is illustrated by a recent experience of my own.

In operating for the relief of a retroverted and bound-down uterus, accompanied by a prolapsed and adherent ovary, it was found, after separating all the adhesions, that a cyst about the size of a marble had been ruptured in the adherent ovary; when it was brought into view it was found to be lacerated, and oozing from this cyst cavity came a sanguinolent fluid. Formerly I would have removed that ovary, but with an accumulated experience with the toleration of the peritoneum to clean manipulation and careful instrumentation, I drew the bleeding organ up into the abdominal opening, surrounded it with gauze, scraped and cleaned out the cyst cavity, which occupied fully one-third of the ovary, and carefully stitched its edges together with fine silk. The uterus was then suspended by two silk sutures to the peritoneal surface of the abdominal wall, and the abdomen closed. I had no fear this time of the result. The first time I did such an operation I did fear a very great deal, but I felt a confidence in this case which was born of accumulated experience. I felt sure she would get well, and she did without a rise in her pulse or temperature above one hundred after the first day. From being a terrible

sufferer during her monthly periods, she had no pain the first menstruation after her operation. Isn't this better than to have removed this ovary in a marriageable young woman, only twenty-two years of age? To save it required more time, more fine work and more technical skill, but saving is better than sacrificing when the conditions are favorable. Especially is it important to save a portion of one ovary, when the other has been removed on account of a tumor or an abscess, or for any other cause.

The disagreeable symptoms accompanying the artificial and premature change of life are often stormy and protracted, in some rare instances threatening, if not resulting in, actual insanity. They are happily prevented by saving one or a portion of one ovary. Menstruation is generally not interrupted, and the sexual and other feelings of the patient undergo none of those sudden and peculiar revulsions which unfortunately sometimes follow the total removal of both ovaries and tubes.

Goodell, of Philadelphia, and Polk, of New York, were among the pioneers in this work, but at the time of their first emphatic utterances the profession were not ready to accept their teachings or to believe in their practice. Some of their overzealous, too enthusiastic and less skillful followers did actual harm by incomplete and badly executed operations, requiring the most radical kind of sacrificial surgery occasionally to save lives improperly jeopardized through a mistaken conception of conservatism. Dr. A. Palmer Dudley, of New York, reported a brilliant series of 103 conservative operations upon the uterine appendages without a death at the last meeting of the American Gynecological Society. His paper was very favorably discussed by Drs. Kelly, Gill, Wylie, Mann and others, who had done similar and other conservative work within the peritoneal cavity.

Dr. Dudley did not hesitate to cut away the diseased portion of the tube and stitch the healthy end to the healthy ovary, with good results.

In other cases the remaining portion of the tube was irrigated with an antiseptic fluid and stitched to the ovary.

And still other cases where one ovary and tube have been removed on account of the presence of a tumor or an abscess, and the other ovary and tube have been found somewhat involved, the diseased portions have been resected, and the healthy portions stitched together with perfect recovery. Pregnancy subsequently occurred in several such cases.

As a result of the increasing conservative treatment of the diseased ovary, we may save many of our patients from the premature occurrence of the menopause, with all that that implies.

More patients would consent to operative procedures rendered advisable by their unfortunate conditions, if they could be assured that they would not be "unsexed," as they call it, in the operation.

While menstruation is looked upon by most women as a curse, or a great inconvenience at least, very few welcome its disappearance with any degree of pleasure.

It is believed to be the beginning of old age, which is so much dreaded, and, while they may not desire more children, the feeling that they have been made so different from other women by the complete removal of both ovaries and tubes, carries with it an indescribable, and often undefinable, feeling of abhorrence.

Of course, what patients all want is restored health, and, if the sacrifice of their organs of sex is necessary to the accomplishment of this much desired object, they will in a large majority of cases consent to follow the advice of their trusted medical and surgical advisers.

If our growing experiences in the abdominal cavity and the accumulation of evidence continues to grow in favor of more conservative and less sacrificial operative work, I feel sure that the deep debts of gratitude now felt toward abdominal surgeons by suffering women will be tenfold increased and intensified.

In still another class of cases conservative work upon the diseased ovary has resulted in life saving operations at the time, and in many more instances than expected symptomatic, practical and permanent cures have been effected.

I refer to those tubo ovarian abscesses where, from the low condition of the patient, and the low position of the abscess, and from the history and general appearance, it is apparent that a prolonged and difficult operation confronts the surgeon, if done through the abdomen.

If he insists, in accordance with his own or imitates any one's iron-clad rules, upon entering the abdomen from above in all cases, separating firm and numerous adhesions to intestines and other viscera until he reaches the pus cavity, and goes through with the usual technique so sadly familiar to us all, he runs many more chances, in my opinion, of operating his patient to death, than as if he had made a simple, conservative vaginal puncture, removed nothing but the offending and life-destroying pus, irrigated and drained the pus

sac, and put her back in bed within ten minutes, without shock, with no hæmorrhage, no stitches, no ligatures, no dressings and no bandages.

From 15 to 25 per cent. of these patients die when operated by the abdominal route by the average gynecologist or general surgeon. Only a few of the great experts can do better, and it is idle talk and a weak attempt to confuse the subject for the uncompromising radical to mix up different classes of cases and then claim the abdominal operation to be the safest and the best. To call the conservative vaginal operation a passing fad is the worst of all rot.

926 Farragut Square.

PLASTIC SURGERY IN GYNECOLOGY.*

By W. D. HAGGARD, JR., M. D., Nashville, Tenn.

The essayist feelingly referred to the pioneer work of Sims, and said that the brilliant achievements in abdominal surgery have so far outshone the humbler plastic operations that their perfection has been very much impaired. The apothegm that "whenever anything is as good as it can be, it cannot get better," is particularly applicable to the work of the early school of gynecologists. It is equally axiomatic that when progress approximates perfection, it ceases to improve, and decadence ensues.

Plastic surgery of the vaginal walls and cervix uteri of the present is a polyglot of many methods, widely differing in principle and hopelessly diverging in practice. It is usually the *bête noir* of the practitioner, the unfruitful field of the general surgeon, and the negligible work of the gynecologist. It is not that we love it less, be it said, but that we love major work better.

The extension of the method of Sims in fistula to injuries of the adjacent soft parts was made by Emmet. The evolution and perfection of the operation on the cervix was traced.

Dr. Haggard described the mechanics of the production of rectocele associated with the common transverse tear of the posterior vaginal wall involving the pelvic fascia, which is the essential pathology in this injury. The rational correction of this complex condition, then, would be, not to sew the labia together, which is the popular procedure in one class of operations, nor to denude an arbitrary area of fenci-

* Original abstract of a paper read before the Eleventh Annual Meeting of the Southern Surgical and Gynecological Association, at Memphis, December 7, 1898.

ful shape on the rectocele and bring the edges of the raw patch together, after the fashion of another class. It would rather be, in the language of Emmet, "to catch up the retracted pelvic fascia at such a point and in such a manner as to take in the slack, as it were, of the fascia throughout the pelvis. By this procedure, the displaced posterior vaginal wall is certainly lifted up and drawn forward in contact with the vesico-vaginal septum. As the steps of the operation advance, the displaced anus is lifted upward and forward, the everted tissues at the vaginal outlet gradually rolled in, and the separated levator and muscles brought together. He accentuated the essential features in detail. The classical operation for the complete tear of the perineum is more amenable to pictorial description, and he believes it is more generally understood. He minutely described it.

In every branch of art, there is a troop of imitators who follow so closely the hall-marks of the original that the specious can scarcely be distinguished from the genuine. So closely are mannerisms copied in literature, art, sculpture, and the drama, that the imitators create a distinctive school. This accuracy of duplication is rendered possible by the faithful and scrutinizing study of the original pattern.

The unlimited opportunities for the study of models in the arts are obviously impracticable in plastic surgery. We cannot all have the privilege of seeing the peerless Emmet, although a distinguished Fellow of this Association says that every one who aspires to do this work ought to. Dr. Haggard regrets that many of Dr. Emmet's pupils do not or cannot copy his methods, and he does not hesitate to say that those who do conscientiously strive to imitate him fall far short in their efforts, but they have at least the satisfaction of having a correct conception of the highest ideals in surgery.

Sharp & Dohme's Aseptic Hypodermic Syringe.

Dr. N. Allen Heaton, Washington, D. C., writes: "S. & D.'s aseptic syringe has been adopted by the surgeons of the New York Hospital. It is far superior to any upon the market, and will do more to assist and advance hypodermatic medication than any single improvement of which I am at present aware."

THE TREATMENT OF COMPLETE RUPTURE OF THE PERINEUM BY DISSECTING OUT THE SPHINCTER MUSCLE AND ITS DIRECT UNION BY BURIED SUTURES.*

By HOWARD A. KELLY, M. D., Baltimore, Md.

The results of the best methods of the treatment of complete tears of the perineum are not entirely satisfactory in a large percentage of cases. The control over liquid motions and flatus is, as a rule, not secured immediately, and it is usually necessary to encourage the patient by telling her that she "will have to learn to control the muscle in the course of time." Such a control, more or less perfect, is gained in the course of several months. This defect in our present procedures, is due to a faulty approximation of the sphincter ends which lie buried in a pit, and are therefore difficult to bring into accurate firm apposition by sutures embracing a considerable quantity of tissue surrounding the sphincter ends. I have to propose, therefore, the deliberate dissection and freeing of the sphincter ends, drawing them out about one and a half centimetres from the tissues, cutting off the scarred ends and effecting a direct union of the freshened ends by two or three buried catgut sutures.

I was led to do this operation by my experience in a case which had been operated upon six times with a result which, judged by superficial appearances, was perfect, and yet the patient had no control over her bowel functions. I made a semi-lunar incision around the anterior periphery of the anus, and found the right sphincter end buried in scar tissue in the median line, while that of the left side was attached under the ischial tuberosity. The sphincter ends were freed, and united directly by buried catgut sutures, and the skin wound closed and union took place *per primam*. In addition to these buried catgut sutures, a splinting suture of silkworm gut is passed through the sphincter near the edges of the wound and on up through the septum, splinting the ends together and taking the tension off the catgut.

I have since taken the hint given by this first case just detailed, and adopted a similar procedure in six cases of complete tear of the perineum due to confinement. Two additional cases have been operated upon by Dr. W. W. Russell and one by Dr. Ramsay. In each instance there was a surprising difference be-

* Original abstract of a paper read before the Southern Surgical and Gynecological Association during its session in Memphis, Tenn., December 10-12, 1898.

tween the new and older methods, noted at once in the earlier stages of the convalescence, when the patient was immediately conscious of perfect control of her bowel functions.

The bowels should never be locked up, but kept regularly open.

Great care must be taken not to leave any dead spaces in closing the remainder of the perineal wound, in order to avoid all risk of infecting the buried sutures.

I only recommend this operation to those who possess considerable skill in doing plastic operations, and in securing a snug, accurate adaptation of the parts.

TECHNICS OF THE OPERATIVE TREATMENT OF INTESTINAL OBSTRUCTION.*

By FREDERICK HOLME WIGGIN, M. D., New York, N. Y.

This paper is a contribution to the discussion of the general subject of "Intestinal Obstruction." He said that the various conditions for which operations are usually demanded, are: (1), Strangulation of the gut by bands, extensive adhesions or apertures; (2), volvulus; (3), intussusception; (4), obstructions due to neoplasms; (5), compression by tumors external to the gut; (6), obstruction from foreign bodies, such as gallstones and enteroliths; and (7), obstruction caused by fecal masses.

Where the case is one of acute intestinal obstruction, there is but little time for preparation. The loose pieces of furniture should be removed from the room selected for the operation, and sheets wet with carbolic acid solution, 1 to 20, or bichloride solution, 1 to 500, should be placed over the carpet. In this preparation of the room, it is important that no dust be raised. The instruments are boiled for ten minutes in a 2 per cent. solution of carbonate of soda, and are then placed in trays containing sterilized water. The towels may be sterilized in a special sterilizer or by boiling. A large quantity of saline solution (one teaspoonful of common salt to the quart of water) should be on hand, and a wash-boiler, after thorough cleansing, should be filled with water which has been sterilized by boiling for an hour. This water is then rapidly cooled in pitchers surrounded by ice. Where there is great haste, it is advisable to take the water from the hot water faucet. If there has been

much vomiting, or if there is considerable abdominal distension, it will be well to follow Kussmaul's suggestion, to wash out the stomach with saline or boric acid solution. If, in addition, the patient is much prostrated, and does not respond well to the ordinary cardiac stimulants, from one to three pints of saline solution should be injected into the veins.

The patient having been anesthetized, the skin over the field of operation is treated successively with the following: (1), Green soap; (2), hydrogen dioxide; (3), lathered and shaved; (4), water; (5), equal parts of alcohol and ether; (6), 1 to 500 bichloride solution in alcohol; and (7), sterile water or saline solution. The bladder should then be emptied by catheter. When the site of obstruction cannot be definitely located, an incision, four inches long, should be made through the right rectus muscle, between the umbilicus and the pubes. If distended coils of intestine obscure the view, they should be aspirated or incised, and the wounds so made closed by suture, and the parts disinfected with hydrogen dioxide. The first effort of the operator should be to find the cæcum. If it is greatly distended, there is good reason to believe that the obstruction is in the colon; but if there is little or no distention, it is probable that the stoppage is in the small intestine. The rectum should, of course, be explored prior to the abdominal section. Where the obstruction is supposed to be in the colon, the hand should be passed over the entire length of the large bowel, or until the obstruction is found. Where the obstruction is suspected to be in the small intestine, the operator should look along the brim of the pelvis and in the region of the cæcum for the collapsed portion of bowel, and follow this down to the obstruction. The various hernial orifices should also be examined, remembering that sometimes two forms of obstruction may co-exist.

If the obstruction is caused by bands, these should be ligated on both sides near their attachment, and removed. If a diverticulum or an adherent appendix is the cause of the trouble, these portions of the bowel should be removed in the ordinary manner, and the opening in the gut closed with Lembert sutures. According to the writer's experience, when volvulus occurs in the small intestines, it is not only safe, but desirable, to draw the intestine out of the abdomen, taking care to keep it hot and moist by wrapping it in gauze or soft towels wrung out of hot saline solution. Where an intussusception is the cause of the obstruction, the tumor should be encircled be-

* Original Abstract of a paper read before the Fifteenth Annual Meeting of the New York State Medical Association, October 18-20, 1898.

low its apex by the finger and thumb, and the sheath held a few inches lower down, while the apex of the tumor is pushed upward. Traction from above the tumor should not be employed. If the intussusception is irreducible, the following method, described by Maunsell, is recommended: A slit is made in the intussusciptiens and gentle traction is exerted on the intussusceptum until its neck appears outside the opening in the intussusciptiens. The base is then transected with two straight needles, armed with horsehair, and the intussusception is amputated one-fourth of an inch above the needle. The sutures are now passed through the invaginated bowel, caught up in the interior of the bowel, divided and tied. The invagination is then reduced, and the slit closed. Thanks to modern surgery, most neoplasms causing intestinal obstruction can be removed, and, naturally, such a course is preferable to colotomy. Where it is inadvisable to resect the portion of bowel containing the growth, an incision, four inches long, should be made over this portion, in the direction of the fibres of the external oblique, and the bowel drawn upward until its mesenteric attachment is on a level with the external incision. A slit is then made in the mesentery and a glass rod is passed through, and iodoform gauze wound around the ends of the rod. The rod is left in position until adhesions have formed, when the gut is opened.

When the intestinal obstruction results from the pressure of a neoplasm external to the gut, the new growth should be extirpated; but if this is not possible, a fecal fistula must be established above the point of obstruction. Gallstones or enteroliths causing obstruction should be pushed a little upward or downward, and then removed by an incision. The object of this is to avoid making the incision through the portion of the gut which is likely to have been damaged by pressure. Fecal accumulations causing obstruction are best removed by a high enema of saline solution, injected at a temperature of 100° F. by means of a fountain syringe raised three feet above the patient. The flow should be intermitted from time to time as the patient complains of distension or colic. The enema should be retained as long as possible, for the object in giving it is to secure the softening of the mass rather than to stimulate peristalsis. The procedure may be repeated several times, and its action assisted by the administration of small doses of calomel and soda.

When the gut is found to be gangrenous, in a case of intestinal obstruction, an end-to-end

anastomosis should be effected, and for this purpose Dr. Wiggin prefers his modification of Maunsell's method. The modification consists in doing away with the invagination and the slit. The portion of intestine to be extirpated is emptied of its contents by pressure. The portion to be removed is then isolated by clamps on either side, and a V-shaped incision is made, having its apex in the mesentery. The mesenteric vessels are ligated before being cut, and the wound in the mesentery is sutured. After washing the divided ends of the bowel with hydrogen dioxide, they are united by two sutures passing through all the intestinal coats, the first suture being at the inferior or mesenteric border, and the second directly opposite at the highest point. The third and fourth sutures are passed on either side half way between the first two. The other sutures are passed in the same way, the needle going from within the gut and piercing all the coats, then back through the peritoneal, muscular and mucous coats to the interior of the other segment of bowel. The ends are then tied in the bowel. This process is continued until all the sutures but one or two are passed. For the latter, Lembert sutures are substituted. If the sutures have been properly inserted and tied, the peritoneum will now be turned in and the stitches hidden.

The operation having been completed, and the dressings applied, the patient is placed between the folds of a warm blanket and only a little warm water allowed by mouth for the first twelve or eighteen hours. Then a few drachm doses of liquid peptonoids are given at intervals of twenty minutes; and, if well borne, peptonized milk is added. The tendency is to give too small quantities of food at too frequent intervals. The bowels are moved on the third or fourth day by small doses of calomel and soda.

In closing, Dr. Wiggin laid great emphasis on the fact, that the prognosis in this class of cases depends more upon the promptness with which surgical treatment is instituted than upon any other factor.

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Papine, Bromidia and Iodia.

Dr. E. S. Vawter, Bent Creek, Va., after using these preparations in all cases for which they are specified, says they "give satisfaction wherever used," and recommends them to physicians not acquainted with their potency.

CÆLIOTOMY IN THE TREATMENT OF THE INCARCERATED PREGNANT UTERUS WHEN IRREDUCIBLE.*

By HENRY D. FRY, M. D., Washington, D. C.

The retro-displaced pregnant uterus becomes imprisoned by the projecting promontory of the sacrum, and unless relieved artificially or naturally, abortion results or serious pressure symptoms develop. Abortion, induced or natural, is more serious than under other conditions, because the angle of flexion prevents complete evacuation and drainage of the uterine cavity.

Fortunately, in the majority of these cases, replacement takes place spontaneously about the end of the third month of gestation. In the few cases which do not correct themselves, manual reposition is generally successful, especially when employed under anæsthesia. In the very small proportion of cases left, induced abortion and vaginal hysterectomy are recommended as the last resorts of obstetric art. Believing the first never to be justifiable treatment for these cases, and the latter only when destructive inflammatory changes have occurred, the writer proposes a new method of dealing with the complication. An incarcerated pregnant uterus, which is irreducible by every effort of manipulation from below, becomes readily restored to its normal position if manipulated from above after cœliotomy.

On April 24, 1898, the writer operated upon a case successfully. The abdomen was opened, the fundus lifted out from beneath the sacral promontory, and the gravid womb placed in normal position. To prevent recurrence of displacement after childbirth, and the possibility of a similar complication in case of subsequent pregnancy, the uterus was attached to the abdominal wall by two silk sutures. The case recovered, passed through a normal pregnancy, and was delivered at term without any difficulty. The uterus remained in normal position after the puerperium had passed.

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Is an old reliable firm—established fifty years ago—and enjoys a widespread reputation as manufacturers of high character. Their preparations are what they claim for them.

A CASE OF CONGENITAL FIBRINOUS DEPOSIT IN THE RETINA AND VITREOUS.

By JOHN DUNN, M. D., Richmond, Va.,

Professor of Otolaryngology and Associate Professor of Ophthalmology, University College of Medicine, Richmond, etc.

The conditions to be described below were found in the fundus O. S. in the case of Mr. W. G. A., aged 21. The right eye, save a slight refractive error, showed nothing abnormal. The patient, whose general health is excellent, has no recollection of ever having received a blow upon his left eye, nor of ever having had any inflammation in it. Central vision, with correcting glass, $1\frac{1}{2}$ D, sph. is normal. The cornea and lens are healthy, as is also the vitreous, if we except the changes to be noted below. From the centre of the optic disc, extending downwards, roughly triangular in shape, is a highly refracting white membranous web through and in which can be seen the retinal vessels for a distance equal to about $1\frac{1}{2}$ O. D.; on reaching this point, the vessels disappear from view. The inferior angles of the web are continued, the one downward and in, the other and longer one, down and outwards. Where the arms end, the vessels again come into view. From the shorter arm, the inferior nasal vein; from the longer, the inferior temporal artery, both normal in size.

Both legs of the triangle become narrower the further they get from the papilla. The inferior nasal artery is visible through the substance of the white membrane for the distance of 1 to $1\frac{1}{2}$ Od.; it then disappears, and is seen in its original course no more. About $\frac{1}{2}$ Od. from the point of its disappearance under the white web are to be seen two arteries: one running inward, the other downward and outward. These, at first glance, seem to be abnormal retinal vessels, springing out of the retina at a distance from the disc. Closer examination shows, I think, that they are to be considered as the branches of the inferior nasal artery, whose course has been for a short section changed during the formation of the web. From about the centre of the outer leg of the triangle there projects into the vitreous a long, thin, white cord (X), which, not far from its beginning, can be seen to enclose what are probably the remains of a small blood vessel. This cord runs in the vitreous outward, and not far distant from the retina. At two points near the edges of the membranous legs can be seen small whitish areas similar in structure to the main web. In all directions from the web can be seen radiating numerous very fine

* Original Abstract of paper read before Southern Surgical and Gynecological Association in session in Memphis, Tenn., December 6, 7 and 8, 1898.

whitish lines, which are longest and most noticeable in the region about the outer leg. An incomplete scotoma can be shown to exist for the region of the retina occupied by the web, careful examination of which reveals the fact that its surface is not at all places on a level with the normal retinal surface, but projects above it, displacing the vitreous; this irregularity is shown in a slight fluting of the web's surface over the part of the triangle area beneath which the vessels are not visible. Between the upper part of the legs of the triangular body, the web and retina look as though they had been churned up together; in two or three places, short sections of the retinal vessels, otherwise hidden, come to the surface.

This case has several points of interest. Whether or not we have to do with a congenital anomaly, cannot be positively determined. Probably we do, inasmuch as the patient can give no history, either of injury or inflammation. The origin of the web would seem to be an extensive hemorrhage into the outer layers and on the surface of the retina, rupturing the hyaloid; the web representing the unabsorbed fibrin.

That the choroid is not involved is, I think, shown by the fact that no pigment blotches are to be seen anywhere in the picture. The large amount of unabsorbed fibrin suggests that the hemorrhage was due to an inflammatory process, most probably prenatal thrombosis, with rupture of the inferior retinal vein at or not far from the disc. It rarely happens in a healthy person that retinal hemorrhage, however great, in its disappearance, leaves extensive, unbroken, not pigmented, fibrinous deposits in the retinal tissue. In several cases I have seen, as the result of either chorio-retinitis or syphilitic retinitis, large perfectly white highly refracting fibrinous masses in an otherwise healthy vitreous, and in one case syphilitic in origin, besides the fibrinous masses in the vitreous also extensive fibrinous infiltration of the retina.

The next point of interest is the faintly fluted surface of a portion of the web, showing that it projects here above the surface of the retina. The presence of the long, thin, fibrinous cord projecting into the vitreous shows us that the hemorrhage invaded this body, and that its absorption required a considerable length of time. The peculiar course of the two small vessels above referred to as appearing, at first glance, to be anomalous retinal arteries, brings to mind the illustration accompanying Wintersteiner's article (*Arch. of Ophth.*, Vol. XXIV, No. 2), and suggests a similar explanation for

his anomalous vessels, viz: that they are but the normal branches of the retinal vessels hidden up to the point of their emergence by the web in the fundus, vessels whose course has been partially changed in the formation of the web. The radiations extending from the edges of the web into the fundus, even beyond the region of the macula, suggest the existence of channels along which considerable absorption took place during the disc appearance of the hemorrhage, and also that the hemorrhagic disturbances extended throughout this region.

After this case was ready for publication, I had, through the kindness of Dr. Jos. A. White, the opportunity of seeing a case very like the one above described, and in likelihood the intra-ocular changes were similar in origin. In Dr. White's case, however, the hemorrhages into the vitreous had been more extensive and the remaining fibrinous cords extending into this body larger.

THE USE AND ABUSE OF NORMAL SALT SOLUTION.*

By J. WESLEY BOVEE, M. D., Washington, D. C.

The term normal salt solution has been used interchangeably with artificial serum. Various compositions and strengths of the constituent elements of the blood have been used with these terms. According to Kirke's Hand-book of Physiology, salt exists in the blood plasma in the proportion of 5.546 parts per 1,000, and thus 6 per cent. is a good practical formula.

Blood transfusion, dating back to ancient Egyptian history, was the forerunner of the employment of normal salt solution, the change being made because of the inconveniences of the former. Thos. Latta, inspired by the chemical researches of O'Shaughnessy, injected salt solution into the veins of his patients. In 1855, cholera was treated with the intravenous infusion of salt solution. About this time, Prof. E. R. Peaslee used it with egg albumen in ovariectomy. In 1879, Bizzozzero and Golgi injected it into the peritoneal cavity for various forms of hemorrhage, which treatment soon proved unsatisfactory. In 1888, Dastre and Loyer studied its action on animals, and the following year recommended it in the treatment of infectious diseases. Of the five different routes through which it is introduced, the intra arterial, suggested by Dawbarn, is con-

* Original abstract of a paper read at a meeting of the Southern Surgical and Gynecological Association, Memphis, Tenn., December 6, 7 and 8, 1898.

sidered unsafe in any condition, and its practice is not recommended. The subcutaneous route is the most useful for common application. In emergency work, the intravenous route will often be needed in severe hæmorrhage, and the rectal enema of solution will be found of great advantage in nearly all conditions in which no bowel lesion is to be combated. In abdominal surgery, the peritoneal cavity will be the site selected, and even in vaginal hysterectomy it has been employed by the author, complete closure of the peritoneum following its introduction with elevated hips.

The physiological action of it is as a powerful stimulant to the cardiac ganglia and the nerve centres. The skin, kidney and intestinal functions are markedly stimulated and some other organs are similarly affected. Osmosis is markedly promoted by it, and as a result of increased arterial tension, the blood supply to the heart muscles is much increased. It has a hemostatic effect when applied locally to raw surfaces, lessening oozing by stimulating and contracting small vessels. Some experimenters have reported its power of increasing the number of red blood corpuscles.

It is eliminated by the skin neutralizing the perspiration and loading it with salt. The kidneys carry away a very large proportion of the amount in the circulation. The lungs remove it freely, crystals of it having been noticed on the lips for days after its use. Autopsies after its use under the skin, have shown a considerable quantity of it in the intestine, demonstrating that this is one of the avenues for its escape.

In general medicine, it has been used in the many forms of poisoning and in a few other diseases. In obstetrical practice, its use has been largely in sepsis, post-partum hæmorrhage and eclampsia. In surgery, it is used to prevent and reduce shock in severe hæmorrhage and in sepsis, as well as for irrigation purposes. "Lavage of the blood" in sepsis and sapræmia has been largely used. Blood-letting and infusion has been practiced considerably in sepsis and in puerperal eclampsia. In cholera and cholera morbus, it is strongly indicated. Grandin has had excellent success in uræmia by colon irrigation with large quantities. In shock, it should be employed early, on the table preceding or during operation in bad cases, or after operation in milder ones. Severe hæmorrhage is to be treated in the same manner, though only after the hæmorrhage has been checked. Here is the strongest indication for the intravenous route. Large quantities left in the abdominal cavity after

celiotomy, in properly selected cases, has a very salutary effect upon the viscera.

It is contraindicated in such blood conditions as hæmophilia, dyscrasias, etc., in active hæmorrhage, in myocarditis, pericardial effusion, atheroma, arterio-sclerosis, cardiac degeneration, thrombosis, etc. Chronic diseases of the lungs, kidneys or liver, especially if malignant, are aggravated by it. The presence of toxins in the blood has been shown to retard its elimination, thus rendering the employment of large quantities at a time inadvisable. It is necessary that the solution be sterile and hot when it reaches the tissues, though when used by the bowel, less care is needed regarding its aseptic condition. Hot solution avoids chills that are dangerous to weak patients. Probably one liter is enough to inject through one puncture of the skin, as localized necrosis and aseptic inflammation have resulted from overdilatation of the tissue spaces.

Ordinarily, not more than one ounce per minute should be injected into the tissues or vein. Pulmonary oedema, dyspnoea, headache, vertigo, mental excitement, delirium, hallucinations, severe pain in the left side, with engorgement of the liver and spleen, occur from overdilatation of the blood vessels with salt solution.

Altogether, it is not a perfectly harmless procedure, as some would have us believe, especially when used promiscuously as to conditions and users.

915 Sixteenth Street, N. W.

Analyses, Selections, etc.

Fracture of the Patella—Treatment by Mediate Ligation, with an Analysis of Fifty Cases.

Dr. Clyde S. Ford, Wheeling, W. Va., presents (*Trans. Med. Soc. State of West Virginia*, 1898,) a few facts to sustain the rationale of a certain method of treatment and to give some details of procedure in a condition that confronts, at times, every general practitioner as well as the surgeon, and which method is possibly not known to all and certainly not accepted by some.

In the analysis of fifty cases presented, only the last five I claim for my own hand, though my personal observation and participation in treatment extended over twenty others. The cases are taken from the service of Dr. Lewis A. Stimson, at Hudson Street Hospital, New York, and a greater number are his own per-

sonal cases, that were invariably attended with perfect result, while the remainder are attributed to several other operators connected, in different capacities, with the same service.

The method has been developed out of a large experience of this surgeon, and to him is due the credit of its invention, though others have presented the same method as an inspiration of their own. The procedure is simple enough in itself under some circumstances, and is almost uniformly attended with success. Yet, it may be followed by disaster so appalling that one advocating the method must point out the possible dangers so clearly that only those who are almost absolutely sure they can avoid them may adopt the method.

The method has been called "Mediate Ligation," because the fractured surfaces are apposed through the mediation of the soft parts lying upon the bone and *not* by direct ligation in which the ligature pierces the substance of the bone.

As some authorities have thought best to consider the patella a sesamoid bone and a part of the quadriceps tendon, the injury has been called a "rupture of the quadriceps tendon." Although the dissolution of continuity of the bone is the characteristic feature of the condition, the injury is not limited to the bone alone, but involves, as well, serious injury to the joint. Anatomically, the injury may be "rupture of the quadriceps tendon" or "fracture of the patella," but surgically (and so we now consider the lesion), it is a broken knee joint.

The under surface of the patella is covered with cartilage and articulates with the lower end of the femur, and is *in* the joint cavity, while the outer surface is covered with periosteum and with a fibrous layer that is continuous with the capsule of the joint. These overlying structures really form one layer—"fibro-periosteum." This same fibrous layer extending from the quadriceps tendon down over the patella to the ligamentum patella, sends expansions off to either side over the joint capsule.

When the patella is broken, and the fragments are separated by subsequent muscular contraction, there is a tear clear across the capsule through this ligamentous expansion at the sides of the patella and through the "fibro-periosteum" as well.

The separation of the fragments and the rupture of the soft parts cause a hæmorrhage which, together with the increased secretion of synovial fluid, considerably injects the joint. The extent of the hæmorrhage is usually dependent upon the violence and consequent

rupture that attend the injury. Thus a fracture of the patella differs from a fracture of other bones, in that peculiar obstacles present themselves that interfere almost positively with spontaneous cure.

The signs of fracture of the patella are seldom obscure unless some hours elapse after the injury and injection of the joint prevents, in a measure, the satisfactory palpation of the patella. There is usually a history of a fall, or violence, followed by a stinging pain and a loss of function of the leg, usually discovered as the patient attempts to rise. The fragments are easily discovered to be separated, or an opening lateral motion of the upper and lower ends of the patella reveals the fracture. There is sometimes no crepitation, because the fragments being separated, the fractured surfaces do not grate upon one another.

The Method.—The cases here presented begin in 1889 and extend through 1896, covering a period of about seven years, and show how the operation has been developed.

The first procedure was known as "subcutaneous ligation," or "the purse-string suture." Four small one-half inch incisions were made, two directly below the patella and at the sides, over the ligamentum patellæ, and two in a corresponding position above, so that the patella was thus outlined by four corners. A long slightly curved needle carrying a stout silk thread is passed in one of the lower incisions on the outside and passed along beneath the skin close to the patella until it comes out of the incision on the same side above. The needle is then passed into the same incision and through the substance of the quadriceps tendon skirting the upper border of the bone and out the upper incision on the other side. The needle then is passed into this latter incision alongside of the bone and emerges from the lower incision on the same side. It then passes into the same incision and through the substance of the ligamentum patellæ and out the first incision which it originally entered; here the two ends are drawn together like a purse string and tied, thus bringing the fragments into apposition. All this is done under the strictest antiseptic precautions. This procedure, however, did not assure the fragments exact reposition, nor did it keep the soft parts from interposing, and besides, the joint cavity remained distended with fluid. At the same time, the joint was exposed to infection by dragging across the open capsule foreign matter in the shape of a ligature, which subjected it to about the same risk as though an incision were made.

The next modification provided a transverse cut through the skin about one and one-half inches long just below the lower border of the patella, and a like cut just above the upper border of the patella, by means of which the silk ligature was passed after the manner of a purse string. This method was open to the same objection as the preceding one, and has been likewise abandoned.

The open method, or arthrotomy, adds no greater risk and possesses the cardinal advantages of removing the blood clot and of preventing the separation of the fragments by the broken joint structures. *This is the method now advised.* The aseptic precautions must be very thorough and border even upon elaboration. The field should be prepared twelve hours before the operation by first scrubbing with soft soap and water, and afterwards with ether, alcohol, and 1:1000 solution of bichloride of mercury. The leg then should be dressed with a wet compress of 1:5000 solution, same antiseptic. On the table the same cleansing process should be repeated. The entire leg, except the operative field, should be covered with sterile towels. The heel should be supported on a sandbag to insure the complete extension of the joint.

An incision about three inches long is made in the median line with its centre over the sulcus between the fragments. The joint is opened, and with hooks the fragments are separated, and the fractured surfaces freed of blood clot by the use of instruments and not by the fingers, and then the joint is flushed with sterile normal salt solution. The structures preventing close apposition of the fragments are replaced, or excised if much torn and frayed. A purse string silk suture is then passed below the border of the patella, through the ligament and up the side, and then across the top of the patella through the quadriceps tendon, and down the side of the patella to the starting point, after which the ligature is drawn taut and tied. Then the fibro-periosteum is folded neatly across the line of the fracture and held by interrupted catgut sutures. If the fragments are easily retained in position a few catgut sutures through the replaced fibro-periosteum is all that is necessary, for then the purse string suture is not needed.

The principal point to be observed is that during the entire operation the fingers are not to enter the wound, as every step is performed by the aid of instruments that are aseptic, which thus lessens the risk of infection. So important is it that the fingers be kept out of the joint, that this particular point must be

carefully planned before and as carefully executed during the performance of the operation. The wound is flushed again and closed by a continuous suture of silk.

A strip of iodoform gauze is laid over the line of the incision, and the knee wrapped with sterile gauze and covered with cotton. The leg is then laid in a properly padded long Volkmann trough splint reaching from the foot to the upper part of the thigh, to remain from seven to eight days.

After from seven to ten days, the dressing is removed and the stitches are taken out. The leg is then lightly wrapped in sterile gauze and incased in a plaster cast, which can be made very light if it is stiffened by laying in at both sides a few strips of basswood. The patient can now get out of bed and walk around. The plaster case may remain for from two to three weeks, and as it grows looser with time, the first few degrees of flexion are performed while the splint is yet on. After the plaster case is removed, a section of from one to two inches is taken out of the front of it, and the edges are bound with adhesive plaster so the patient can put it on and wear it during the day, while he removes it for the night.

Massage is used night and morning, and mild attempts at flexion are made at the same time.

I will not tax you with a recital of the detail of the cases tabulated, though a slight *analysis of the table will furnish a few facts worthy of mention:*

Fracture of the right patella more frequent than the left in the ratio of 3 to 2.

Fracture of the first patella is often followed by a fracture of the second one. This may be due to either of two causes: The friable condition of the bone, or a continued "favoring" of the injured leg, and the throwing of a too great strain on the uninjured member.

About two-thirds of the cases were caused by muscular action, or over-flexion in conjunction with traumatism. About one-third to muscular action alone.

The line of fracture is generally transverse and near the centre, though the fragments in some cases have been again divided by attending violence.

Anæsthesia used was cocaine in 27 cases and ether in 23. The operation under cocaine is not always absolutely painless, but well enough borne by one desiring to avoid the distress and danger of general anæsthesia, and can be adopted for persons who cannot take general anæsthesia with safety. The operation under ether is always the easier, and may be preferred by the operator.

The fluids used for flushing the joint bear silent witness of the transition from antiseptic to aseptic surgery.

In the first open operation the joint was flushed with a solution of 1:1000 bichloride of mercury, and the joint afterwards drained. After a short time, the same solution was used a little less germicidal, being 1:5000. Then the antiseptic solution was supplanted by an aseptic one in the form of sterile salt solution. The salt solution is prepared with great care. It is made from sterile filtered water, and placed in a glass flushing bottle and boiled for thirty minutes; then it is set aside to cool. The day following the same solution is boiled again, for the same time, to kill the spores that may have developed in the meantime, and again on the third day is the process again repeated. The neck of the bottle is always kept plugged with sterile cotton.

There is generally a slight reaction in these cases. It is not unusual for some pain to be felt in the joint for the first or even the second night. The temperature for the first few days may range between 99 and even to 102 without the joint being infected, though the higher the temperature the greater may be the fear of infection. The experience of the surgeon must enable him to differentiate between simple reaction and a foreboding of a more serious condition.

The splint best adapted for dressing is the long iron trough splint of Volkmann with a T foot rest, which gives the splint an even support and elevates the foot at the same time. This splint can be easily removed at any time before it may be safe to leave the leg to a permanent dressing. After from seven to ten days, when the stitches are removed and the wound is clean, the Volkmann splint should be replaced by the permanent plaster case.

Patients are usually out of bed as soon as the tenth day, or a day or so after the application of the plaster-of-Paris splint.

A removal splint is worn after three or four weeks, and continued until flexion, to at least a right angle, is attained.

The time required for the cure of this condition, which must be considered a complete restoration of the power of flexion, is from ten to twelve months. In two of the cases that I have observed personally the time for the restoration of complete flexion was, respectively, ten and twelve months.

In summing up the untoward results, we have: Case No. 2, age 54, died of chronic nephritis on the ninth day.

Case No. 4, shows a fibrous union, but that is due to the fault of an abandoned method.

Case No. 37, shows the separation of fragments; but this is Case No. 35, in which a good result was first obtained, and the refracture occurred before the resolution of the soft parts allowed complete flexion of the joint.

Case No. 23 was plainly infected—temperature 101.6 F. on second day; 103 F. on third day. Joint was opened and drained. Infection extended up the thigh; general septicæmia and death on the thirteenth day.

Case No. 25 was also infected, though the process was less virulent. The temperature on the fifth day was 102. The infection was radically followed by incision, irrigation and drainage until the eighteenth day, when the leg was amputated through the middle of the thigh.

The two cases of fibrous union: The one due to the fault of an abandoned method of treatment, and the other to the conditions that attend secondary fracture, and the death from chronic nephritis, in an old man, need not be considered in the final determination.

Out of the fifty cases, then, there is a loss of one leg and the loss of one life. I can say 96 per cent. of the cases were cured. I remind you that these cases were taken from the same service with facilities at hand, but were under care of different operators. It may be particularly significant, as to technical procedure, or it may be the fatality of uncontrollable conditions, but the two serious results in this list of cases are attributed to the same operator. In general practice, and under somewhat ordinary circumstances, the surgeon might not do better.

On the one hand, we have an absolute certainty of more or less impairment of the functions of the leg, and on the other a 4 per cent. menace to life or limb. Perhaps it would be better, from the standpoint of social economy, to have out of a hundred fractured patellæ 94 perfect results and one death and one lost leg, than to have 100 crippled legs, but it is unfortunate that to the patient who loses his leg or life there is no consolation in the assurance that 94 others have just been perfectly and permanently restored.

As to whether or not to operate, the slight risk to be run should always be emphasized and the choice be left to the patient. As the patient's condition is one that will only incapacitate him to a certain degree, and hardly threaten his life, a method of treatment that places his life in the least jeopardy should be considered with the greatest respect. If there can be absolute certainty about asepsis, and

the operator is sufficiently familiar with surgical technique, mediate ligation should be advised.

I dwell particularly upon this method of treating fractures of the patella because it seems to have the greater advantages, though perhaps fewer advocates than the method of *direct ligation*. There are certain medical quarters, at least, where only the method of direct ligation or "wiring" is ever thought of.

The mediate method seems to be the best because it is the easiest to perform; requires less violence in the manipulation of the fragments; the fingers do not touch the joint which renders the process the most aseptic. The mechanics is good—the strength of the repairing band is entirely enough and need not be more.

The object of the method is to obtain and maintain complete and accurate apposition until the bone is united by nature. More than that need not be done, as the restoration of the function depends upon the resolution of the parts by natural processes entirely, and not by artificial substitutes or auxiliaries. It does not seem that the "wiring" method, in strengthening the union between the two fragments, possesses any superior virtue, because even the riveting or soldering of the fragments together, making the bone immediately firm and whole, will not restore the function of the knee-joint.

In a recent text-book on surgery, the author of a section on fractures, says of the method of drilling the fragments of the patella and drawing them together with a strand of silver wire: "The rapidity and completeness of repair is made evident when it is considered that patients have walked about within three weeks after the operation, have walked a mile within six weeks, and later on played football." The good intention of that author may be left unchallenged when his text is re-read carefully, and we find that he has not "witnessed" such results, but has simply "considered" such results as "evident." That author might be further relieved of any suspicion of his mixing poetical fancy with his clinical observations, by another line that follows at some little distance in the same text, in which he says, "In four weeks the patient may be allowed to get out of his bed and walk around the ward."

After mediate ligation of the patella the patient may walk, with his leg stiffened by a plaster case, in from seven to ten days. But his final recovery depends upon the restoration of the broken knee-joint, and not only

upon the repair of the fractured patella or ruptured quadriceps tendon.

The cases for operation are those in which the fragments separated and the patient is willing to assume himself a slight risk for a great gain, and the operator must be a surgeon with an undying faith in the agency of germ life in septic processes, and with a faultless aseptic technique and a sufficient skill.

Diabetes Insipidus—With Cases.

In a paper by Dr. S. L. Jepson, of Wheeling, W. Va. (*Trans. Med. Soc. State of W. Va.*, 1898), he remarks that diabetes insipidus is the name given to a diseased condition, or to different diseased conditions, the most prominent symptoms of which are, intense thirst and excretion of large quantities of urine of low specific gravity, pale color, and as a rule containing neither sugar nor albumen. Although comparatively rare, I have three cases under observation.

Notwithstanding all the cases were in women, the disease is said to occur most frequently in males, in the ratio of about three to one. It may set in with the birth of the patient, or at any period of life, down to old age, although each decade from ten to fifty shows more cases than do other periods.

Although no special cause for the disease is shown, it often follows shock of various kinds, as sudden fright, injury to the head, cerebral diseases, brain tumors, febrile and nervous affections, drinking bouts, long immersion in, or drinking immense quantities of cold water. A neurotic constitution is a predisposing cause, and heredity doubtless acts more directly at times. Orsi reports six cases in a family of nine persons; Weil cites a family of ninety-one, in which twenty-eight cases occurred. Dr. Gee knew of the disease being transmitted directly through four generations.

Symptoms, etc.—The disease may develop suddenly. Usually, however, it commences insidiously, and progresses for some time before the patient suspects that his free drinking and urinating may not be a normal condition. Thirst becomes tormenting, even demanding frequent satisfaction during the night; while the amount of urine voided may exceed that in case of saccharine diabetes. The amount varies from five or six pints, to several gallons in twenty-four hours. Edes reports a case in which eight gallons were excreted, and a case was observed in Edinburgh Royal Infirmary, in which nine gallons was reached. Roberts had a girl patient weighing fifty-six pounds, who for some weeks passed daily an

amount of urine equal to more than one-third of her weight, and yet she continued in fair health.

The urine is very pale, and its specific gravity low, ranging from a little above that of water to 1.010. The daily amount of urea and phosphates excreted remains about as in health, although it is sometimes considerably increased, when the term *azoturia* or *phosphaturia* is applied. A saccharine substance called *inosite* is occasionally present, but it is not peculiar to this disease, having been found in glycosuria, Bright's disease, and other conditions.* In a few cases a small amount of sugar or albumen has been found in the urine, but only for a very brief period.

Where the patient fully satisfies his thirst, the amount of water ingested is said to be about equal that excreted through the kidneys, although the latter is sometimes in excess of the former. But if the patient is limited in drinking, the urine does not diminish proportionately. Water is extracted from the tissues, and this drying process may go on to such an extent as to endanger life. Not only are the tissues deprived of much of their natural moisture, but the body sometimes appropriates water from the atmosphere. Dickinson found that one patient, between urinations, no food or drink being taken, gained respectively: 15½ ounces in weight in three hours, 19¾ ounces in five hours, and 3¾ ounces in three and one-half hours. The deprivation or material reduction in the supply of water also greatly aggravates all the symptoms. One may get some idea of the torturing thirst that ensues from the incident related by Trousseau, of a patient, who, deprived of water, "suffered so cruelly from it, that one day he seized his chamber vessel and drank the contents to the last drop."

In addition to these symptoms, patients not unfrequently suffer distressing headache, or epigastric or lumbar pain. Dryness and heat of mouth and throat is commonly present, although I find one case in which pyalism existed, twelve to eighteen ounces of saliva being secreted in twenty-four hours. The skin is usually dry and harsh, and erythema and pruritus are occasionally met with. Edema has also been noted. Irritability of the bladder may occur, presumably as a result of the too free use of that viscus, and the character of the urine voided.

* *Test for inosite.*—(Scherer's). Carefully evaporate some urine to dryness. Moisten the residue with ammonia and with a solution of calcic chloride, then again evaporate. The appearance of a rose-red color indicates the presence of inosite.

Notwithstanding these distressing symptoms, patients generally maintain a fair condition of health for months or years, some retaining strength to perform the most arduous labors. A case is quoted by Dickinson, in which an infant, age 3 years, impoverished her family by her demands for water; and many years later kept her husband in a constant state of impecuniosity by the same depraved appetite. She lived to bear him eleven children, however. (Edes.)

In most cases, general health sooner or later becomes impaired. "The temper becomes irritable, the mental faculties sometimes enfeebled, the bodily strength diminished, and the sexual functions often abolished." These are natural results of loss of rest, tormenting thirst, and mental and physical distress, which are a necessary part of the disease. Cases are said to often terminate fatally by pneumonia, phthisis, and organic brain disease. Of a collection of seventy-seven cases, sixteen recovered, less than 20 per cent. Cases following injury or acute diseases, are less severe and more apt to recover than others. Those depending upon organic brain disease are the most grave. Trousseau says: "I have had the pain to see nearly all my polyuric patients waste away rapidly, and die much earlier than those who had saccharine diabetes. In the majority of glycosuric patients I can easily modify the quantity and character of the urinary secretion, while I find that I can be of little use to polydipsic patients." This rather gloomy view is not shared by other writers, a reflex of whose opinions I have already set forth.

Silver says this disease may merge into saccharine diabetes. I do not find this opinion expressed by any others; but remembering that a little sugar is occasionally met with in diabetes insipidus, and that polyuria, either with or without sugar, may be caused by irritating the floor of the fourth ventricle at different points, we can readily see that one disease might merge into the other, if dependent on a brain tumor or other disease liable to extend from its point of origin.

It is an interesting fact that cases sometimes suddenly recover after acute illness from inflammatory or other febrile disorders, or after the termination of pregnancy.

Pathology and Morbid Anatomy.—Roberts collected fourteen cases in which necropsies were made. In three the infundibula and pelvis of the kidneys, and ureters also, were greatly dilated, in one no normal kidney structure remaining, the organs being mere sacs. One

case showed the kidneys enlarged; the other diminished in size.

In two cases the kidneys were minutely injected or congested; in one there was congestion of the malpighian tufts only; in one the kidneys were large, smooth, and flaccid. In two of these four cases there were tubercles of the lungs and intestines, with atrophy of the optic nerve in one, and malignant disease of the liver and post peritoneal glands in another. In one case the kidneys were large, and the cortical portion contained a number of minute abscesses. In one the kidneys were contracted, pale, anæmic with tubular epithelium fatty.

In the remaining six no kidney changes were present, all the cases being associated with brain lesions, as follows: In two the walls of the fourth ventricle were abnormally vascular, with fatty degeneration of nerve cells on the surface. In one there were miliary tubercles at the base of the brain near the fourth ventricle, and upper surface of the cerebellum. In three there were brain tumors, viz: in one a sarcoma in the region of the sella turcica, causing pressure upon the brain near it, in one a glioma the size of a walnut attached to the floor of the fourth ventricle and filling the entire cavity; in one a small gumma under the floor of the third ventricle in the middle line.

In addition to these fourteen cases, I find fourteen cases occurring after fracture of the base of the skull. Four proved fatal, and in all were found evidences of pressure near the floor of the fourth ventricle.

Kahler has collected twenty-two cases of persistent polyuria, associated with coarse cerebral disease. Of fourteen necropsies, tumors were found in ten.

Out of the total fifty cases here referred to, collected by three writers, forty-two were associated with cerebral injury, or disease, viz: tumors thirteen, various lesions fifteen, brain pressure after injury fourteen, leaving but eight in which kidney disease was found, but the changes were not uniform in character—in several only hyperæmia being found, which might be the result of various conditions existing before death. Abdominal tumors are sometimes accompanied by polyuria.

Conclusions drawn from a limited number of necropsies would indicate that the disease is one of the nervous system rather than of the urinary organs. The following points fortify this position: Its occasional sudden origin and equally sudden favorable termination; the marked symptoms of a nervous character; the final complete cure in some cases after years of

continuance; the frequency of its occurrence after injuries, especially of the brain; many of the most useful remedies are those addressed to the nervous system; the common observation as to the powerful influence of nervous disorders, as a bad sick headache or an attack of hysteria in temporarily causing an increased secretion of pale urine; and lastly, the well-known relation between irritation of the floor of the fourth ventricle and the quantity and character of the urine—puncture at one point, causing polyuria without sugar and at another point glycosuria. Kahler, following up Claude Bernard's experiments, has cured persistent polyuria by irritating various areas in the central part of the medulla and pons.

The kidney lesions found in a few of the cases collected by Roberts are regarded by that author as secondary, and the result of "the irritation of the frequent micturition and excessive and long-continued diuresis." Similar changes are found after death from glycosuria.

The immediate anatomical cause of polyuria is believed to be a vaso-motor disturbance of the renal capillaries, whereby they are caused to dilate, and "their walls are thinned and rendered favorable to increased transudation of watery fluid from the blood. It is generally believed that the minute blood-vessels possess in their circular and longitudinal muscular coats a provision for active expansion as well as an active constriction of their calibre. This provision is under the control of the vaso-motor nerves."—(Roberts.) In polyuria, the contractile power of these vessels seems to be greatly impaired or lost, and no doubt seems to exist that paralysis of the vaso-motor nerves supplying the kidneys is, in most cases, the main factor in the production of the excessive flow of urine. This paralysis may, as we have seen, be due "either to local irritation, as in a case of abdominal tumor, or to central disturbance in case of brain lesion, or to functional irritation of the centre in the medulla, giving rise to continuous renal congestion."—(Osler.)

To diagnose the existence of polyuria is one thing, but quite another to definitely ascertain the condition or disease present in each case, since there are many which may give rise to the prominent symptoms usually present. Persistent thirst, with the excretion of a large quantity of urine of low specific gravity, and containing neither sugar nor albumen, is almost certain evidence of the existence of diabetes insipidus. It is well, however, to examine for pus, the presence of which points to pyelitis or pyelonephritis, both of which may be attended with more than the normal secre-

tion of urine. One may be also misled by the large amount of urine of low specific gravity sometimes voided in cases of chronic interstitial nephritis. The albumen may escape detection on account of its small quantity, or it may be temporarily absent. The microscope must then be employed to search for casts, which will rarely escape us if the latest methods of precipitation be used.* The presence of dyspeptic symptoms, retinal involvement, cardiac hypertrophy, or some evidence of uræmia, will aid in the diagnosis. Early in cases of waxy degeneration of the kidneys also, we have at times little or no albumen and an abundant secretion of pale urine, but the origin of this form of renal disease in phthisis, syphilis, caries, or some chronic suppurative process, will prevent the careful observer from falling into error. Then, again, in no form of Bright's disease is the quantity of urine ever so great, or the specific gravity so low, as in most cases of diabetes insipidus.

Treatment.—Since the exact origin and nature of diabetes insipidus cannot always be accurately determined, the treatment must be largely symptomatic and somewhat empiric. That its management is far from satisfactory, we have already seen, and that fact is fully demonstrated by the numerous remedies suggested for its cure. I present a brief list, which could easily be greatly lengthened:

Alum,	Gold chloride,
Amyl hydrate,	Iodoform,
Antipyrine,	Jaborandi,
Acid gallic,	Liquor calcis,
“ nitro-muriatic,	Krameria,
“ nitric,	Nut galls,
“ tannic,	Muscarine,
Arsenic,	Opium and its
Belladonna,	alkaloids,
Bromides,	Potassium iodide,
Blisters,	“ nitrate,
Camphor,	“ bicarb,
Creasote,	Rhus aromatica,
Dry diet,	Salicylate,
Ergot,	Strychnia,
Ferrum,	Turpentine,
Calomel,	Valerian,
Galvanism,	Zinc valerianate.
Hydrarg. iodid.,	

If the disease can be traced to meningeal inflammation, to gumma or other lesions of specific origin, or if in polyuria following injuries to the head, inflammatory exudation

about the floor of the fourth ventricle is believed to exist, treatment addressed to these several conditions may be followed by improvement or even complete cure. Here mercury, the iodides and a general tonic treatment would be properly employed. In most other cases, three classes of remedies seem to be indicated:

1. Those intended to diminish the irritability of the nerve centres.

2. Those intended to act on the vaso-motor nerves, causing contraction of the arterioles of the kidneys.

3. Those addressed to the general system, or to special organs, as the stomach, and designed chiefly to counteract the debilitating effects of the disease.

1. *Of the first or nervous sedatives, valerian* seems to be generally regarded as a most valuable remedy. Brought into prominence by Trousseau, who regarded it as the most valuable of all medicines, it is endorsed by Brunton, Bartholow, Wood and Fitz, Osler and many other recent teachers. Fagge includes it among the four remedies named by him. The fluid extract may be given four times a day in doses of one-half to one fluid drachm, or even more. Trousseau used an extract, reaching as much as an ounce daily. Some authors prefer the *zinc valerianate*, gr. 3 to 15 daily. Bouchard taught that valerian acts favorably by diminishing the excretion of urea, and so secondarily the polyuria, and claimed that there is no diminution in the amount of urine until the urea has fallen below its normal quantity.

DeMusy, at the Hotel-Dieu, strongly recommended *belladonna* in full doses. He twice found this drug to accidentally produce anuria. Systematically employed, it has diminished the quantity of urine from ten pints to two pints per day.

Opium and its alkaloids were formerly much employed, as they are still in glycosuria. This drug no doubt relieves some of the symptoms of insipid diabetes, but it is doubtful if it has any curative virtues, while its bad effects on digestion renders its use unwise, unless it be for brief periods to control some symptom beyond the reach of less injurious drugs.

A number of the recent coal-tar products have been favorably spoken of. Of *antipyrin* Andrew H. Smith says: "Evidence is accumulating to show that this drug is capable of giving very great temporary relief, if not of effecting positive cures." He advises 10 to 15 grs. *ter die* for protracted periods.

2. *As a stimulant to the vaso-motor centres,*

* For method of finding casts when there are but few, see *Jour. Am. Med. Assn.*, Vol. XXX, page 234. (Haines & Skinner) and p. 387, Detwiler.

causing contraction of the renal vessels, *ergot* has recently gained an excellent reputation. A. H. Smith says: "It is the drug most frequently employed, and which can claim a larger proportion of successes than any other." Murrell uses it in combination with belladonna.

Da Costa says it has cured many cases. Bartholow and Wood both regard it as one of the most efficient remedies. It is to be given in doses of $\frac{1}{2}$ drachm to 1 drachm of the fluid extract four times a day.

Galvanism, first suggested by Nothnagel, has been productive of good results. One pole may be applied over the lumbar region, the other over the hypogastrium; or the positive pole to the nape of the neck and the negative to lumbar or epigastric region, or both alternately.

3. *The general health* must be looked after, and the depressing effects of the disease counteracted by appropriate regimen and tonic medication. To this end it may be necessary to employ iron, arsenic, strychnia, the mineral acids and other remedies which will suggest themselves. The patient should, as far as possible, be relieved from domestic or business cares, especially when these prove irritating. It is not wise to restrict the patient too much in the use of liquids, although he need not gratify his desire to the fullest measure.

By following these suggestions we may hope to cure some of our cases and relieve many others, but the majority will continue to be afflicted for many years, and perhaps their lives will terminate through some intercurrent disease.

I will now briefly present the results of my recent experience.

CASE 1. Female, aet. 45, married, five years ago during pregnancy first observed unusual thirst and abnormally frequent micturition. The nausea and vomiting of pregnancy were unusually bad, and continued for about seven months. She thinks that the sickness was also different in character; nothing was retained for weeks except buttermilk. There was œdema of face and "a bloating of the body" which led her to think she had dropsy. At one time she voided 12 pints of urine in 24 hours, the specific gravity of which was 1.002. She suffered severe stinging pains over the kidneys, and vile headache, which seemed to begin in the spine and extend to base of brain. At these times she is restless, sleepless, irritable and discontented, having no disposition to settle down to any work. She is easily worried at trifles and excited to anger, although

when well a most patient and amiable woman. The skin is dry, and palpitation of the heart has occurred a number of times so badly as to put patient to bed.

Three years before this disease set in this patient passed two kidney stones the largest I have ever seen; and a number of times since, though not for years past, she has voided bloody urine.

I have, at different times prescribed for this patient *ergot*, *nux vomica*, *valerian* and other drugs, and she has always improved after medication. After a recent exacerbation, I directed fl. ext. *valerian* in doses of $\frac{1}{2}$ drachm to be increased to 2 drachms four times a day. Nearly a pint was taken; but after taking the largest dose for a time, the patient became alarmed at a loss of power in the arms and legs. This was so marked that she could with difficulty support herself in walking up and down stairs. Drowsiness and headache were also experienced.* The medicine was suspended, and slowly muscular power was regained.

The distressing symptoms are now greatly improved, and the patient feels better than for five years past. She rises twice during the night to void urine. Quantity passed in 24 hours (Feb. 1) 7 pints, sp. gr. 1.004. It would seem that while *valerian* has lessened the patient's sufferings, it is not effecting a cure.

Feb. 25th, urine measured 6 pints, sp. gr. 1.006. Has taken *valerian* in smaller doses since last measurement of urine. Prescribed tincture belladonna, 6 minims, and fluid extract *ergot*, 1 drachm, four times a day. After 4 oz. of this mixture had been taken, the urine measured 6 pints, sp. gr. 1.007. After 8 oz., 5 pints, sp. gr. 1.007. All symptoms quite as favorable as at any period of treatment. The *ergot* caused a persistent bearing-down sensation that put the patient to bed, and led her to believe that she was about to miscarry. An examination revealed a non-pregnant uterus. Patient went a month without treatment. Urine voided, 7 pints, sp. gr. 1.005. This patient is probably incurable.

CASE 2. Mrs. C., aet. 54, married, mother of 8 children; previous health excellent; about May, 1896, began to exhibit unnatural thirst and frequent desire to urinate. She did not regard these as signs of disease until she began to lose flesh and strength, which failed rapidly. In July the change from her normal condi-

* Brunton says, "The oil of *valerian* in large doses paralyzes both the brain and spinal cord." Bartholow says, "Valerian in large doses reduces reflex excitability, motility and sensibility."

tion was most marked. She was thin, nervous and almost wholly incapacitated for work, although she persisted in performing domestic duties until abandoned by my urgent advice. She had a passionate desire for water which she likened to the drunkard's longing for his accustomed stimulus. Urine voided in 24 hours, 9 pints, sp. gr. 1.005.

Heart's action irritable, feeble, irregular and intermittent, and its pulsations very difficult to count. For many years this patient has had a small goiter, for which I had tried 3 gr. tablets of protonuclein, of which 200 were taken. Her eyes are rather prominent, although they would not be noticed unless attention were called to them. However, the possible existence of Graves' disease suggested itself, and I thought it not impossible that the heart's action had been disturbed by the protonuclein, just as we know will sometimes occur in exophthalmic goitre after the use of thyroid extract.

A mixture of digitalis and strophanthus was directed for the heart symptoms, and ergot and valerian in fluid extract, and later the valerian alone for the polyuria. *Nux vomica* was also used for a time later in the case. The last drug used was fluid extract of valerian, of which nearly a pint was taken in drachm doses four times a day. All the symptoms are greatly improved. The patient is no longer nervous, has gained flesh and strength, does not have to leave her bed at night either to quench thirst or void urine, and even when up to attend to the children, does not feel desire for drink.

Feb. 1.—Urine passed in 24 hours, 5 pints, sp. gr. 1.012. Heart's action, while much improved, is still rather feeble and irregular. No murmur can be detected. Patient regards herself practically well, and takes no medicine except occasionally for the heart.

May 15.—Urine voided in 24 hours less than 4 pints, sp. gr. is still about 1.012. No albumen. Patient's general condition much improved. Had taken no medicine since February 1st.

CASE 3.—Mrs. M., aet. 25, married April 20th. In August last, the third month of pregnancy, she first observed unusual thirst and frequent urination, which she attributed to the large quantity of water drank. Mouth and throat unpleasantly dry. Suffered at times for a day with hemicrania, which was not always on same side. She was nervous, slept poorly, often getting but an hour's sleep in a night. Urine passed in 24 hours, 9 pints, sp. gr. was little above that of water. No al-

bumen; no sugar. Fluid extract of valerian in doses of half drachm, increased to a drachm, four times a day, was given. After taking 4 oz. the patient felt more comfortable. A pint was ordered, nearly all of which was taken. No other drug was given except 10-gr. powders of lactophenin *pro re nata* for the hemicrania. The patient improved so much that she discontinued the valerian without consulting me. January 25, nervousness had gone; sleeping well and was disturbed but twice in a night to urinate. Thirst much less.

Jan. 30, passed in 24 hours 7 pints of urine, sp. gr. 1.007. No sugar nor albumen.

As pregnancy was so near ended, the medicine was not resumed, hope being entertained that the case would terminate favorably with the pregnant state, as has happened in other cases.

Feb. 9th.—A healthy child was born after natural labor, tedious on account of inefficient pains. Convalescence normal. No thirst during or after labor. In the third 24 hours after the child-birth, urine passed amounted to but 2 pints, sp. gr. 1.012. In the tenth 24 hours 3 pints were voided, sp. gr. 1.014, and color normal. No symptom of diabetes insipidus exists. Patient feels perfectly well and continues entirely well.

Exophthalmic Goitre.

Dr. L. D. Wilson, Wheeling, W. Va., having a case under his care, devoted a short paper (*Trans. Med. Soc. State of West Virginia*, 1898,) to that strange, inexplicable, intractable and altogether mysterious affection—a disease presenting the most marked symptoms, and yet with no defined pathology; which affects the organism profoundly, and yet leaves but little trace of organic change in either the solids or the fluids of the body; which must have existed almost from the beginning of the human race, and yet was unknown in medical literature until the present century; and a disease whose behavior under medical treatment is so contradictory and refractory, that but little success has been attained in formulating a rational plan for its management. From the days of Hippocrates, Galen and Celsus, down to and through the time of Sydenham and Harvey and the Hunters, no mention of it appears. The first mention we find of it is by Flajani in 1798. (Fagge) next anonymously, in the *Medico-Chirurgical Journal* in 1816; by Demours, 1818; by Parry, 1825, in a post-humous publication of cases observed in 1785; by Adelmann in 1828. To Graves, of Dublin, we are indebted for the first full de-

scription of the disease in 1835. He was followed in 1840 by Basedow in Germany.

The disease has been observed at all periods of life except old age. Cases occurring in childhood, however, are not, as a rule, well marked. It is mainly a disease of adult life—fifteen to twenty years comprise the great majority of the cases, and more begin between twenty and thirty than in any other decade. Females are greatly more liable to it than males.

The causes, both predisposing and exciting, are either obscure, or the way in which it is produced by their agency difficult or impossible to explain. Heredity in some instances seems to have a certain determining influence. A neurotic inheritance in general may explain some cases. General debility and anæmia are strongly predisposing causes. Cases often appear after exhausting discharges, hæmorrhage, childbirth, etc.—in fact, anything that may induce constitutional weakness. It seldom comes on during pregnancy. Menstrual disturbances are not usual in the beginning. Organic heart disease may precede the onset, but there seems to be nothing to indicate that it acts as a producing cause. Nor do the causes of ordinary goitre seem to have any tendency to produce the exophthalmic form. Of *immediate causes*, none seem so potent as those which act on the nervous system through the emotions, as distress, terror, anxiety, fright. Other causes mentioned are: Injuries to the head, alcoholic excess, syphilis, various acute diseases, as scarlet fever, pneumonia, rheumatism, severe exertion, and certain climatic influences.

The onset is generally slow and gradual, rarely it is acute and rapid, and when once developed is usually permanent. The disease, when fully developed, is characterized by *three very striking symptoms*: Increased rapidity of heart action, enlargement of the thyroid, and abnormal prominence of the eyeballs. *The heart disturbance* usually appears first. It may precede the other symptoms months, or even years, and there may be periods of quiescence of variable duration before the palpitation becomes permanent. The heart acts not only with increased frequency, but with increased force, and both are rendered greater by emotion, excitement or exertion. The increase of pulse rate may be comparatively trifling, not exceeding 100. Generally, it is higher, 120, and may rise to 180 or 200, especially during excitement. It is usually regular and often small. The impulse of the heart is more forcible and covers a larger area. After a time it

becomes enlarged, indicated by extension to the left of the area of cardiac impulse and dulness. The enlargement is generally due to dilatation rather than hypertrophy, and, no doubt, is a consequence of the increased force and rapidity of action. There is often a distinct systolic murmur heard over the entire organ, and usually may be heard in the carotids. The pulsation in these vessels and in the thyroids is increased in a marked degree, and is noticeable throughout the whole arterial system.

The thyroid enlargement usually occurs after the heart symptoms have existed for some time. It is "a slow, painless, soft enlargement, commonly uniform, sometimes greater in one lobe, the superficial veins may be dilated, the arteries always pulsate. The degree of enlargement is not often extreme, and is apt to vary, being greater when the palpitation is greater. Often, the enlargement is only trifling, and occasionally is absent altogether."—(Gowers.) The gland tissue may be unaltered or it may contain "colloid cysts" in variable number and size.

The prominence of the eyes also usually comes after the cardiac symptoms, but it has been in rare cases the first to be noticed. It is usually equal, but occurs first more frequently in the right; very rarely it is confined to one side. In degree, it may amount to no more than a slight stare. Generally, it is developed to such a degree that a considerable zone of the white sclerotic is visible around the cornea, and it may be so extreme that the lids cannot meet. Vision, as a rule, is not affected, and the pupils are usually normal. The ophthalmoscope appearances are normal, except that the arteries of the retina show the general increase of arterial pulsation already mentioned, and the veins are enlarged and tortuous. Conjunctivitis, opacity of the cornea, and even sloughing, are sometimes seen in extreme cases, due to the imperfect protection of the ball owing to the failure of the lids to close. A curious symptom first noted by Von Græfe is, that when the eyeball is directed downward, the upper lid does not follow it as it does in health, but remains elevated. This symptom is by no means constant, although when present it is of high diagnostic value. The cause of the protrusion of the eyeball is undetermined. It has been attributed to turgescence of the vessels of the orbit, to increase and swelling of the orbital fat, and in some degree to contraction of Muller's non-striated orbital muscle. None of these conditions, nor indeed all of them existing together, seem sufficient to account for this symptom.

Of the three cardinal symptoms, "the cardiac disturbance is the most constant." It is rarely absent, and may be the only one present, and when recovery takes place, it is the last to disappear.

In addition to these, there is usually a condition of mental or cerebral excitement present shown in various ways—mental depression, irritability of temper, sleeplessness, headache, throbbing in the head, noises in the ears, vertigo, impairment of memory and unfitness for employment. Anæmia frequently exists, the menstrual function is disturbed, becoming irregular or ceasing altogether. The appetite is sometimes deficient or capricious, and sometimes voracious. Flatulence and constipation exist, and there often is abdominal distension to a very marked degree. There are paroxysmal attacks of diarrhœa, occurring oftenest at night. Emaciation, often to an extreme degree, comes on. Irregular febrile attacks occur, the temperature rising 2 to 4 degrees. Where this condition is present in a patient seen for the first time, and in whom only the cardiac disturbance is present, and this in moderate degree, one is liable to be misled as to the nature of the ailment. A peculiar tremor of the muscular system, occurring on movement, is very common. It is noticeable in the voice, and is a valuable aid in the diagnosis where the characteristic symptoms are not sufficiently prominent. Profuse sweating sometimes occurs, usually in acute cases. Pigmentation of the skin, occurring in patches of brown color on various parts of the body, is not unusual.

From the character of most of the symptoms, the hypothesis that *the seat of the trouble* is in the central nervous system, seems most reasonable. Strumpell sums up the case thus: "Although all the symptoms of exophthalmic goitre point to an affection of the nervous system as a cause of the disease, as we see from the symptomatology, the results of pathological investigations are still very meagre. There is a class of cases in which changes in the sympathetic, and especially in the lowest cervical ganglion, are said to have been present; but the pathological significance of the discovery is not placed beyond all doubt, and in other cases, nothing abnormal at all could be found in the sympathetic. The theory that all the symptoms of exophthalmic goitre are derived from a disturbance of the sympathetic, also meets many difficulties and contradictions. If we regard only the three cardinal symptoms, we can bring the acceleration of the pulse, and perhaps the exophthalmus, into harmony with the theory of irritation of the

sympathetic; but not the goitre, which is due to a dilatation of the vessels. The theory of a paralysis of the sympathetic explains the goitre, and also the exophthalmus—if we assume as the cause of the latter a dilatation of the vessels in the back of the orbit—but again the acceleration of the pulse remains unexplained. The attempt at explanation becomes still more complicated if we also consider the rarer symptoms of exophthalmic goitre. We believe, then, that we cannot form a satisfactory theory of the disease from the single hypothesis of disturbances of the sympathetic, and that we must content ourselves provisionally with reckoning exophthalmic goitre among the general neuroses without known anatomical cause."

The onset of the malady is usually slow, and prolonged through several years, in many cases 5 or even 10 years. Occasionally it is acute, and develops in a few days. Considerable and prolonged remissions occur. Death, when it takes place, is uncommon before six months.

Recognition of the disease is only difficult when the eye and thyroid symptoms are absent. The accelerated heart, muscular tremor, emaciation and enlarged abdomen are usually in evidence, and serve to direct us to a correct diagnosis.

There is some diversity among authors as to the *prognosis*. Flint, in Pepper's System, states that "the disease has no direct fatal tendency, that it tends to long continuance, and that complete recovery is rare." Gowers says that, "in fully developed cases the prognosis is grave," that "it is better in women than in men," that "it is better where there is a remittent tendency, and, if in the early stage, where there is a family predisposition." Fagge states that "it is not often traced to a fatal termination in hospital experience," and he adds, "It does not seem that the sufferers from exophthalmic goitre, like those who have other chronic maladies which are incurable, go about from hospital to hospital until at last they die, and the only possible inference seems to be, that most cases at length end in recovery." The proportion of recoveries has been estimated as one-fourth.

My own experience is limited to four cases. Of these, two recovered completely, and now for more than ten years have had no symptoms of recurrence. One died, and one is now under treatment, greatly improved, the amendment being steadily progressive, and with every indication of a favorable termination. All four cases were females. Of the two who

recovered, both were married. One had two or three children previous to the attack but none since. The other had no children previous to the attack, but has had four or five since. The one who died was between thirty and forty. The one under treatment is past the menopause. Both of these were unmarried. In none of these cases had the disease existed longer than a few months before coming under observation, except the last. In this case it probably had existed more than a year. The fatal case and the two which recovered were not under treatment more than two or three months. The one who died was all the time under unfavorable conditions as regards hygienic surroundings, food and nursing. The two who recovered, as well as the one now under treatment, lacked nothing in these respects.

When the disease proves fatal it is usually the result of the heart affection. The long-continued rapidity of action tends to cause dilatation of the cavities, in consequence of which dyspnoea, attacks of palpitation and oedema of the legs follow. Increasing general weakness and progressive emaciation are more and more pronounced, and the patient gradually succumbs. Death may be hastened by various intercurrent affections which have no direct connection with the primary disease.

In the treatment of this affection the first consideration is rest, complete and prolonged. "Every kind of mental and physical excitement should be avoided." Have the patient put to bed and kept in quiet and seclusion. This alone will often cause a very marked reduction in the pulse-rate, and it should be maintained so long as improvement continues and until the symptoms are no longer aggravated by moderate exercise. The bowels should be kept regular, the food adjusted to the digestive powers of the stomach, and should be of a nourishing but not too stimulating character. Sleep should be secured, regular and sufficient. Headache and any other disquieting symptoms should receive proper attention.

For the restless excitability, sleeplessness and headache I have found the bromides of most service where they agree with the stomach. The constipation and flatulent distension are usually benefited by the regular use of sodii phosphat, its action, when insufficient, to be supplemented by some other mild laxative. For the anæmia, when it is prominent, iron in some form is generally advised. Sometimes it does good, sometimes it does not. When we come to the heart symptoms we find the results of medicinal treatment to be very

uncertain. Strychnia, belladonna, aconite, digitalis, galvanization have all been used, alone and in all possible combinations, and in conjunction with quinine, iron, arsenic, and iodine as general tonics and alteratives, and with varying results. In the management of a case one usually has ample opportunity to test them all and pressing incentive to search for others. In my own experience, digitalis, alone or with strychnia, has seemed to give the best results.

The symptoms previously mentioned all have a direct agency in disturbing and intensifying the action of the heart, and it is hardly fair, therefore, to expect that remedies for its control can have a very satisfactory effect so long as these are unrelieved. On this account, it seems to me, valuable agents may have fallen into unmerited disrepute. It would seem that all the symptoms must improve together, and any lagging back on the part of one or two retards all the rest. Hence, in order to arrive at any satisfactory conclusion as to the effect of remedies for the relief of this symptom, it would be necessary during their exhibition to carefully consider the state of all the other symptoms. Belladonna pushed to its maximum dose is favorably mentioned by Gowers. Galvanization of the cervical sympathetic has been recommended, and has seemed to be beneficial at times. A weak current only should be used, the electrodes being "placed along the anterior border of the sterno-cleido-mastoid, one above and one below, or one in either of these positions, and the other on the lower cervical spines or beneath the occiput." (Gowers). Surgical treatment of the thyroid, whether by excision, cauterization, or injections, is dismissed as useless.

For the paroxysms of palpitation and dyspnoea, mustard to the feet, cold to the thyroid, and full doses of digitalis are recommended; also, ether, chloroform and morphia. Should the eyeball become inflamed by reason of extreme exophthalmos, it should not be neglected.

I might venture the observation, that in a disease which is so essentially nervous, and in which the patient is so responsive to disturbing influences, care should be taken lest we push our efforts too vigorously, and by the appearance of anxiety or apprehension in ourselves, affect unfavorably the always too susceptible sufferer. It should be the aim of physician and attendants, by the use of all the moral influences which they can command, to endue these patients with fortitude, to lessen their apprehensions and excitement, and inspire them with patience and hope.

Modification of Laborde's Method for Resuscitation in Deep Asphyxia

Dr. W. Freudenthal says (*N. Y. Med. Jour.*, December 10,) that at the meeting of the Académie de médecine of Paris on July 5, 1892, Laborde* demonstrated a method which he had applied for the resuscitation of two drowned persons. Later on, he published further observations on this topic. His method consisted in regular rhythmic tractions on the tongue, which "alone often sufficed to restore respiration."

Many practitioners have tested this method, but Herzog was one of the few who made a more thorough study of this question. After practical experience and experimental research, Herzog came to the following conclusions: 1. Laborde's method is not of value, and should not be applied in asphyxia occurring during the later stage of narcosis. 2. In asphyxia during an earlier stage of narcosis, Laborde's method is probably of some value as an auxiliary to other methods of resuscitation, which are more effective.

About a year ago, I had occasion to operate in a case which suggested to me a modification of Laborde's method. As I have but one case to report, I can only speak from a theoretical point of view, yet on this basis the modification appeals to me as one worthy of recommendation. The case is the following:

Mr. N., thirty-eight years of age and a printer by occupation, had tuberculous affections of the larynx for about a year; lungs were only slightly affected, heart normal. An abscess of the size of a fist had formed on the outside of the throat corresponding about to the location of the arytenoids. On one of those sultry hot days which we know so well in New York, we had to open the abscess in a small room of an apartment house. The patient was in deep narcosis and the incision had just been made, when almost simultaneously cessation of respiration and of the heart's action occurred. We made attempts at resuscitation, until our strength was almost exhausted. Finally, I introduced a swab of gauze into his mouth in order to remove the secretion.

It was then that the idea struck me to induce reflex action by irritation of the epiglottis. This was done in a very simple manner. With the patient's head hanging over the edge of the table, and his jaws separated by means of a gag, I introduced one hand into his mouth and moved the index finger to and fro over the epiglottis. After a short while the patient com-

menced to swallow, and then breathe, only to stop two minutes later. A second "tickling" of the epiglottis had the same favorable result, which also occurred the third time, whereupon both pulse and respiration remained normal.

Although Laborde does not refer to the epiglottis, nor to irritating the same, I nevertheless consider this only a modification of his method for the following reasons: Laborde's object in making rhythmical traction is to irritate the sensitive nerves of the tongue and reflexly, by means of the central nervous system, the motor nerves of respiration. The sensitive nerves to be especially considered in this connection, are the glossopharyngeal and the superior laryngeal. Now, the glossopharyngeal is distributed to the anterior surface of the epiglottis, while the superior laryngeal—*i. e.*, its inner branch—supplies the posterior surface of the epiglottis, the base of the tongue, and the epiglottidean glands. When, therefore, traction is made on the tongue, the epiglottis is subjected to this traction as well, and thus both nerves mentioned are indirectly irritated.

A much more powerful effect, however, is directly exercised upon these nerves by energetic irritation of the epiglottis. I therefore consider my method nothing but a modification of Laborde's. But there are more reasons in favor of my modification:

1. I do not consider traction on the tongue as being perfectly free from all danger; at least, I cannot imagine why muscle bundles should not be torn in the manipulations. By tickling the epiglottis nothing can be injured.

2. We know by daily experience how anxiously we try to avoid touching the epiglottis in intralaryngeal operations, even after thorough cocainization. We are afraid of the reflex caused by the least sensation of tickling. Ought we not to learn by this experience?

Therefore, in asphyctic conditions, tickling the epiglottis might perhaps be tried as a means of resuscitation.

Cases of Recurrence of Stone in the Bladder.

Dr. Arthur T. Cabot, of Boston, read a paper on this subject before the American Association of Genito-Urinary Surgeons, 1898. His observations were based on a series of 135 operations which he had done for stone upon 119 patients. There were 115 litholapaxies, with four deaths; thirteen suprapubic lithotomies with four deaths; two median lithotomies with one death, and two vaginal lithotomies with one death. The series only included cases of formal operation under anes-

* *Le Bulletin Médical*, p. 1044, 1892 ff.

thesia, and took no note of many instances in which a crushing or pumping operation had been done, with or without cocaine, for the removal of small recurrent stones or for retained fragments.

There were two cases where a uric-acid stone reformed in consequence of the persistence of the diathesis that led to the original formation. On one of those patients he had operated twice, and on the other, three times. The series included nineteen instances in which a phosphatic stone appeared some months or years after the removal of a primary stone. In two or three instances the primary stone was a uric-acid calculus; in all the other cases it was phosphatic. In six of these cases the previous operation had been done by some other operator.

This recurrence of a phosphatic stone may be due to the persistently alkaline condition of the urine, but it is much more common as the result of some local condition. In two or three of the cases the recurrence might perhaps be regarded as the result of an incomplete operation, leaving a fragment to serve as a nucleus for a new stone. In two cases, sacculated stones which lay concealed in pockets in the vesical wall gave rise to repeated stone formation in the bladder cavity. Finally, it is notorious that tumors and granulating surfaces within the bladder are prone to be incrustated with salts. The crystals that exist in the urine do not tend to cohere and form a stone excepting in the presence of albuminous material. The constant reappearance of a phosphatic stone in the bladder usually indicates the existence of some local causes which should be sought and removed. The suprapubic route affords the best opportunity for inspection and for the operative treatment of any condition found.

Dr. William K. Otis, of New York, said that he also was in favor of resorting to litholapaxy whenever possible, because of the lower mortality of the operation and because the subsequent discomfort to the patient was much less than after any of the other operations for stone; at the same time, it did not prevent or interfere with the performance of any future operation which might be demanded. In connection with this subject, Dr. Otis exhibited a calculus which he had removed from the bladder of a man thirty-eight years old; the nucleus of the stone was a piece of chewing-gum which the man had introduced into his urethra about four years previous to the operation.

Dr. Keyes said the continual recurrence of phosphatic stone was easily understood in

those cases where there was some obstructive condition, and the toilet of the bladder was not properly effected.—*Boston Med. and Sur. Jour.*, Nov. 3, 1898.

Improved Antitoxin Tube.

The newest tube contained for antitoxic serum is what is termed the Improved Antitoxic Tube, and is by all odds the most unique and serviceable yet devised. It combines all the advantages of both vials and bulbs, without any of their disadvantages. In addition to this, it possesses valuable features found in neither vials nor bulbs. When the improved antitoxin tube is used, drawing the serum into the syringe is not necessary. The accompanying cut shows how the syringe is charged by gravity.



The syringe is aseptized and adjusted for use, and the needle end unscrewed as if to introduce a tablet. The point of the capillary prolongation of the tube is broken off, and the tube held, broken and down, over the syringe, while the stopper is removed. The serum flows into the syringe by gravity. The last drop is expelled by replacing the stopper. This in itself is an enormous advantage over all other methods of filling the syringe, and easily makes the tube the best container ever used for antitoxic serums. The tube was devised, and is now employed by H. K. Mulford Company.

Etiology of Yellow Fever.

Dr. Henry B. Horlbeck, of Charleston, S. C., Chairman, presented the report of the Committee of the American Public Health Association on this subject. Reference was made to the labors and experiments and discoveries of Sanarelli. A number of enlightened colleagues of this distinguished laborer have been engaged in verifying and extending his researches as to the cause of this disease. Sanarelli claims that he has found the bacillus icteroides in 58 per cent. of the cases examined, and believes that the reason of his non-success in finding it always is due to incidental causes. The author gave a description of the bacillus of yellow fever, and then referred to the work of other investigators. Drs. P. E. and John I. Archinard, of New Orleans, had studied the

subject in relation to diagnosis by the Widal method of the bacillus icteroides. In 50 cases of yellow fever, agglutination with cessation of motion was obtained in over 40 per cent. of cases, the reaction being as characteristic as in typhoid fever cases.

The work of these gentlemen demonstrates: (1) the practical value of serum diagnosis; (2) it may be utilized as early as the second day; (3) that a dilution of $\frac{1}{10}$ with the time-limit of one hour is to be preferred for accuracy in diagnosis; (4) the dried blood method of Dr. Johnston is perfectly satisfactory; (5) the serum diagnosis of yellow fever should be instituted in all countries wherein the disease may exist endemically, or which may be occasionally visited by epidemics; (6) it is especially valuable at the beginning of epidemics in the diagnosis of early and doubtful cases. The universal consensus of opinion among the enlightened scientific world was that yellow fever was due to a specific organism, and that while the bacillus icteroides might not be the inevitable cause of the disease, it was still of sufficient importance to warrant its closer study.

As a supplement to the report, Dr. Doty, of New York, states that his researches indicate that the antitoxin serum possesses rather weak preventive power. Experiments made to determine its curative power had yielded negative results. His investigations on the subject of vaccine or a prophylactic fluid would indicate that the bacteria, isolated from cases of yellow fever, have preventive powers when prepared and inoculated, according to the method of Koch and Haffkine.

Dr. Eduardo Licéaga, of Mexico, read a sixth report on the *Etiology of Yellow Fever*.

This disease was defined as a febrile affection of a contagious character which prevails endemically in certain parts of the Republic of Mexico, and sometimes assumes an epidemic form. The only centre of the disease that exists on the coast of the Mexican Republic was found in the canton of Vera Cruz. In no other part of the Gulf Coast does yellow fever ever make its appearance spontaneously. The disease has been transmitted through the bagging that carried corn, sugar, and coffee. It has also been transported by the clothing of persons who have been attacked, and also by the skins which are exported from the places in which the endemic exists. Another material which served to propagate yellow fever was the ballast which is shipped by the vessels in Vera Cruz after having landed their cargo. The propagation of the disease through

the medium of water was not well established, although it was a probable cause.

The general conditions that favor the transmission of yellow fever are humidity, heat, want of light and of ventilation. Sanarelli believes that mould affords protection to the yellow fever germ, and that once it finds a lodging in the mould it is preserved in the houses, ships, and other objects that can serve as a medium of transmission. The same author believes that mosquitos can serve the same purpose.—*Boston Med. and Surg. Jour.*, Dec. 8, 1898.

Dr. Guiteras to Go to Cuba.

It is generally understood that Dr. John Guiteras, the great yellow fever expert, will resign the chair of pathology in the University of Pennsylvania at the end of the academic year and with his family go to Cuba. Dr. Guiteras has been tendered the chair of practice of medicine in the University of Havana. He will be accompanied by several other medical men of high repute who are interested in Cuban affairs. It is Dr. Guiteras' intention to enlarge the medical course at the University of Havana and place it on a footing with similar courses in this country.—*Med. News*, Nov. 5.

Cheerfulness and Prudence.

Jest keep the heart a-beatin' warm,
Be kind to every feller;
Look fer the rainbows in the storm,
But—carry yer umbreller!

Be brave to battle with the strife,
Be true when people doubt you;
Don't think that money's all in life,
But—carry some about you!

An' when it's time ter shuffle off,
An' you have done yer mission,
Jest put yer trust in Providence,
An'—call a good physician!

—*Atlanta Constitution*.

Fort Monroe's Military Hospital.

Fort Monroe, Va., will soon be one of the most important military hospital stations in the country. The hospital is named the Josiah Simpson Hospital, and has during the past four months accommodated 1,500 sick and wounded soldiers, of whom about 500 still remain. It is now proposed to increase the capacity of the hospital to 2,500 beds by the erection of five additional buildings.—*Med. News*, Dec. 10.

Book Notices.

American Pocket Medical Dictionary. Edited by W. A. DORLAND, A. M., M. D., Assistant Obstetrician to the Hospital of the University of Pennsylvania; Fellow of the American Academy of Medicine, etc. Philadelphia: W. B. Saunders. 1898. Flexible leather. Large pocket size. Pages 518. Price \$1.25, net.

We have examined this pocket medical dictionary with amazement as to how much matter may be got into a most limited space. The definitions are remarkably concise, and there is no ambiguity about them. This book, measuring about six and one-half inches in length, four inches in breadth, and about five eighths of an inch thick, contains the pronunciation and definition of over 26,000 terms used in medicine and the kindred sciences, along with over sixty extensive tables, as of acids, amputations, arteries, bacilli, etc. There is also appended a most valuable table of doses of about 1300 drugs or preparations. The matter in each of these tables, as also their arrangement, are exactly suited to the wants of the doctor or student in quick search of the item desired. The new or "reformed" spelling has been introduced throughout the book, while the pronunciation of terms is clearly indicated by a very simple method which is understood at a glance. Obsolete and useless terms are omitted, while many words of too recent introduction to be found in dictionaries of prior date are herein given.

Text-Book of Materia Medica, Therapeutics and Pharmacology. By GEORGE FRANK BUTLER, Ph. G., M. D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Medical Department of the University of Illinois, etc. Second Edition. Revised. Philadelphia: W. B. Saunders. 1898. 8vo. Pp. 839. Cloth, \$4 net; sheep or half morocco, \$5 net.

The popularity of this text-book is shown by the fact that this second edition has been called for in less than two years—a rare compliment to the worth of the book and to confidence reposed in the author, in this day when books on the same subject are being rapidly issued. The first part of the work is devoted mostly to the composition and preparations of drugs—a part which is of especial importance to pharmacists. The second part is devoted to the therapeutic uses of drugs and their preparations. A good classification is made by the author into *I. Disease Medicines*—under which

head are discussed the uses of such agents as are known as restoratives, digestants, fats and oils, mineral and vegetable acids, alkalies, mineral waters, bitters, hæmatics, organo-therapy, alteratives and serum-therapy, antiseptics and aromatics; and *II. Symptom Medicines*, which department includes the antispasmodics, antipyretics, anæsthetics, hypnotics, narcotics, motor excitants and depressants, cardiac stimulants and sedatives, diaphoretics, diuretics, emetics, expectorants, cathartics, etc. *Topical Remedies* form a distinctive group. The work is not arranged alphabetically as to drugs, but chiefly as to their potency under the heads discussed. Numerous tables, etc., are introduced and serve well for purposes of reference.

The work is brought well up to date—the recent information as to the physiological effects of antiseptics, antipyretics, strychnia, aconite, etc., being noted. Serum-therapy and the therapeutics of nuclein and other interesting topics are profitably discussed. In short, the work is well suited to the student as a textbook, and to the wants of the practitioner as a guide book in clinical therapeutics.

Essentials of Materia Medica. Therapeutics, and Prescription Writing; Arranged in the Form of Questions and Answers. By HENRY MORRIS, M. D., Physician to St. Joseph Hospital, etc. Fifth Edition. Revised and Enlarged. Philadelphia: W. B. Saunders. 1898. Cloth. 12mo. Pages 288. Price, \$1, net.

This book is listed as No. 7, of "*Saunders's Question Compend*," and is prepared especially for students of medicine. We have so long been opposed to the simple alphabetical arrangement of drugs in works on therapeutics, that it is with special pleasure we note the classification of drugs according to their leading effects. How any college student can master therapeutics as undertaken to be presented by many authors of the present day—simply an alphabetical arrangement of drugs, etc.—we cannot understand. We really attribute much of the superficial knowledge of therapeutics by the more recent graduates to this great error of modern books. Whatever may be said of the imperfections, or even the impossibility of ever making a satisfactory classification of all drugs by their physiological or therapeutic effects, much more could be said to condemn the alphabetical arrangement of medicines.

Editorial.

The Yellow Fever Epidemic of 1898, and Duties of Boards of Health.

The *Journal of the Mississippi State Medical Association*, December, 1898, is making it "red hot" for the Louisiana State Board of Health. It begins with the statement that "Owing to the extreme mildness of the winter of 1897, it was believed that there would be a recrudescence of fever, and the consensus of opinion among sanitary officers in the South, as expressed at the several quarantine conventions held, was that New Orleans was the danger point. This opinion was based upon the records of the past and the known habits of the disease. Acting on this presumption, the Mississippi State Board of Health placed one of its strongest members in the city of New Orleans. Mississippi is an agricultural State, and its people fear yellow fever. The Legislature appropriated the sum of \$50,000 for the purpose of protecting its citizens from the scourge * * *"

On the 4th day of September, when Dr. Dunn announced fever in New Orleans, a quarantine was promptly put on by our able secretary. This embargo was removed on the 8th because Dr. Dunn's diagnosis was not sustained by the representative of Alabama, nor by the representative of U. S. M. Hosp. Service, Surgeon Carter. Subsequent events demonstrated the absolute correctness of Dr. Dunn's diagnosis. * *

In August, fever was diagnosed and announced by State Inspector Gant at Taylor's Station, on the line of the I. C. R. R. * * * Fever was announced in Oxford on September 18; in Jackson on 10th.

It was then evident that a focus of undiscovered infection existed, and to discover this became the prime duty of the Board. * * * Dr. Haralson was ordered to New Orleans to discover, if possible, the point of leakage. He * * * went direct to Dr. Souchon, President of the Louisiana Board, and told him that it was believed by the Mississippi Board that the fever in the [latter] State was coming from New Orleans. This was about September 14th. * * * Dr. Haralson had in his possession data bearing on the existence of fever in the city [New Orleans], and Surgeon Carter secured more.

Thus fortified, the Louisiana State Board of Health was notified that if it did not announce the presence of yellow fever in the city of New Orleans the Marine Hospital Service would.

Thus it was that the case of Mallory Kennedy—reported to the city board of health on September 12, by his father, Dr. T. S. Kennedy, whose diagnosis was concurred in by Profs. Reynaud and Parham—became announced on the 17th, five days after it was first reported. The city was at once quarantined, and its cowardly, assassinating methods stopped, though too late to prevent a widespread distribution of the disease. * * *

The contention made by President Souchon that land quarantine is not effective is as weak as anything possible to imagine, coming as it does from a man who quarantined three whole counties [Hancock, Harrison and Jackson, Miss.] for over thirty days because of the existence of fever at a point in the center of one of the counties. * * *

Dr. Souchon calls the disease [of 1898] "yellowoid," and mentions its extreme mildness. The mildness appeared to have been the case nearly everywhere except at New Orleans, where, according to the last report bearing Dr. Souchon's name that I saw, they had a mortality of 33½. Now, this means one of two things: Either the disease had a frightful percentage of deaths in the Crescent City, or else the number of cases was not reported. Dr. Souchon can select either horn of the dilemma as best suits himself. Does he mean to charge his local medical men with being wilful liars and violators of the law, or does he stand by his official report, and have a good old-fashioned yellow-fever death-rate?"

* * * It does seem the height of absurdity for him to be constantly prating about the Atlanta Convention when he was the first health officer in the South to violate its provisions. "**** Yellow fever is a preventable disease, and can be stamped out in any community where honesty prevails."

We have seen a number of statements of criminations and recriminations, but we know nothing of the facts other than as generally printed. If, however, the facts as stated in the above extracts be exact, then it convinces us that the U. S. Marine Hospital Service or some other national board must assume control in cases of threatened yellow fever epidemics or endemics. A health officer should not be actuated by the ordinary selfish motives of the ward politician. He is entrusted with the care for the health and lives of citizens—that yellow fever is no respecter of persons who are exposed to the infection. Sentiments of sordid or commercial interests should not interfere with his cool-headed and just decisions and assertions. It may injure trade to announce the

occurrence of yellow fever in a city or section; but let it be remembered that a man would willingly give all that he hath in exchange for his life. If policy has to be resorted to, let it be impressed that "honesty is the best policy."

How to Prevent Coughing.

It is "going the rounds" that a doctor, by the promise of rewards and punishments, succeeded in inducing children in a hospital ward to simply hold their breath when tempted to cough, and in a little while he was surprised to see how some of the children entirely recovered from the habit. Constant coughing is precisely like scratching a wound on the body; so long as it is done, the wound will not heal. Let a person, when tempted to cough, draw a long breath and hold it until it warms and soothes every air cell, and some benefit will soon be received from this process.

Substitutions in Prescriptions.

We have been much amused at the lengthy and forceful editorials in exchanges with reference to the pernicious habit of some pharmacists who have not the article prescribed in stock, but have something "just as good," or "even better," which they substitute. There is no pharmacist so obtuse as not to know that the change of any article in a prescription without the full consent of the prescriber is cheating. "I asked for bread and you give me a stone." What is the use of moralizing with intentionally dishonest people? Nothing can be done with such cheats except the force of the law. This writing all around a subject has no effect; let the guilty parties be exposed, and thus be brought to the bar of public disgust.

Bequests to Hospitals, Colleges, etc.,

Are common in the North, but how seldom do we hear of such things in the South? This circumstance must be due to the fact that attention of the wealthy classes is not called to the need of such institutions. Taking up, for instance, the issue of the *Boston Medical and Surgical Journal* for December 8, 1898, we note that *James Stillman*, of New York city, has given \$50,000 simply to provide hospital accommodation for students of Harvard College in a building under the control of the corporation. In addition, he gives the sum of \$2,500 for four years toward the running expenses of the projected infirmary. *Capt. J. Putnam Bradlee*, of Boston, recently deceased, willed the sum of \$225,000 to be given to cer-

tain hospitals, etc., in Massachusetts. The late *Josiah B. Thomas*, of Peabody, Mass., bequeathed the sum of \$50,000 to the town of his residence for the establishment of a hospital. By the will of the late *David Leahy*, of Brooklyn, N. Y., over \$100,000 was bequeathed various charities in Brooklyn—mostly hospitals. Such reports are constant in Northern journals. Why should not like reports occur in Southern journals with reference to Southern charitable institutions?

The Western Ophthalmologic and Otolaryngologic Association

Will hold its fourth annual meeting in New Orleans, La., February 10 and 11, 1899. As the Mardi Gras takes place in that city on the 13th and 14th of the same month, hotel reservations should be made at an early date. Dr. William Sheppegrell, 124 Baronne street, New Orleans, La., will furnish information on inquiry. Dr. J. Elliott Colburn, of Chicago, Ill., is President of the Association; Dr. Thomas A. Woodruff, of Chicago, is Secretary, who will furnish information about rates, routes, etc.

Revenue Stamps on Death Certificates.

Collector James D. Gill, of the International Revenue Service, District of Massachusetts, in a circular dated October 22, 1898, says no revenue stamp is required on death certificates which are to become part of the vital statistics of the State; nor on certificates furnished by an official surgeon of the U. S. A., unless they are for personal or private purposes; nor on certificates issued by the medical examiner or coroner of the State when the same are to become a part of the record of the State. But when a physician's certificate is issued to private persons for private or personal purposes, or when furnished by a physician as a private practitioner, even when required by law, and to be used for private purposes, are subject to a stamp tax of ten cents for each such certificate.

Rare Chance for Professional Opening.

Dr. Bittle C. Keister, South Boston, Va., having recently purchased a home in a city where he will locate shortly, offers for sale, on very reasonable terms, his present location, consisting of a lucrative practice in one of the liveliest business towns of Virginia, a model physician's home consisting of a modernly built ten-room dwelling—office rooms attached

—all necessary outbuildings, etc. The home is located on a well improved three acre lot in the healthiest and most fashionable part of Virginia, in a town of 3,500 inhabitants, with paved streets, electric lights, water works, etc. This town is rapidly growing—situated at the junction of two great railroads (the Southern and the Norfolk and Western). It is thirty miles from the city of Danville, sixty miles from Lynchburg, and 106 miles from Richmond, Va. Dr. Keister agrees to introduce his successors into a first-class practice, provided the right man comes at the right time. This offer is open only to those who mean business. Terms will be made known on application to the Doctor, either by letter or in person. He has no special reasons for changing his location, except that he may be in a larger field, where he contemplates establishing a private sanitarium. He refers, by permission, to any of the best citizens of his town and county.

The Abuse of Free Dispensary Practice

Is a matter that those in charge of such work must be on their guard to prevent. We most heartily commend the course pursued by those in charge of the dispensary of the University College of Medicine Dispensary, Richmond, Va., with reference to a recent case. It turned out that the applicant for free prescriptions and drugs was fully able to pay for professional services. Some appearance of the patient, as he entered the room of the doctor in charge, suggested to him that the patient was not a fit subject for charity, which led the doctor to inquire into the matter. On finding out the facts, this well-to-do patient was dismissed from the dispensary, and was told that he must return to his family physician or other doctor of his selection and pay for the services he sought to be rendered without charge. If all the doctors in charge of other free dispensaries would act with the same degree of good judgment, the matter of abuse of free dispensary practice would soon be a dead issue.

Extent of the 1898 Yellow Fever Epidemic in the Gulf States.

The Marine Hospital Service Reports show that the total number of cases of yellow fever in the Gulf belt of the United States during the summer and fall of 1898, was 2,272 cases, of which 110 died. There can be no reason for so widespread an epidemic of yellow fever as soon as plans for purifying the harbors of the West India Islands, recently devised, can be carried out.

Richmond Academy of Medicine and Surgery.

Under the efficient presidency of Dr. M. D. Hoge, Jr., there has not been a meeting during 1898 when there was not a subject discussed. During the meeting held December 13th, the following were elected officers for the year 1898: *President*, Dr. Ernest C. Levy; *Vice-Presidents*, Drs. John Dunn, D. J. Coleman, and J. W. Henson; *Secretary and Recorder*, Dr. Mark W. Peyser; *Assistant Secretary*, Dr. W. H. Parker; *Treasurer*, Dr. J. Travis Taylor; *Librarian*, Dr. M. E. Nuchols.

Removal of Bodies from Santiago.

According to *Medical News*, the U. S. War Department has decided to adopt, at once, the suggestion of General Wood, in command at Santiago, that the removal of the bodies of American soldiers from that section of Cuba be deferred until February at the latest. This is a sanitary precaution, which, it is felt, must outweigh other considerations.

Illegal Practitioners.

From various parts of the country we hear too much of the presence of doctors who in some way have eluded the laws in respect to the required examinations by their State Board of Examiners. It is time the profession of the cities or townships in which such violators of the law are offering for practice, were after such violators with the rope of the law. What is everybody's business is nobody's business, they say. But on examination of the laws of the States in which offenders are said to abide, we find them sufficient to apprehend and bring to justice all violators. Bring the facts in each case to the attention of the proper officials, and it is but seldom that the arrest is not made. It would be a good law if each licensed practitioner were required also to register his name, address, and school of practice. If this was done the ferreting out of violators would be easy.

The Southern Medical College Association.

We are advised that during the recent session in Memphis, Tenn., this Association practically reaffirms the resolution of the American Medical Association, which will require all medical colleges to adopt the four years' graded course. A number of colleges, however, are powerless to make the desired change earlier than the sessions which are to begin next fall. This action of the Southern Association now practically binds all the regular medical colleges of the United States to adopt the four years' graded course.

The Transactions of the Medical Society of Virginia

For the session held last September at Virginia Beach is nearly ready for issue. While it is by far the largest volume ever issued by the Society—about 400 pages—we regret to note the omission of several papers that yet remain in the hands of authors—that have never been transmitted to the secretary. In this connection the secretary is constantly receiving requests for copies that cannot be supplied to outsiders except at the regular price of \$2 a copy. Of course, every Fellow of the Society and others recorded as in attendance upon the session as fraternal delegates or by invitations are entitled to a copy each.

The Tri-State Medical Association of the Carolinas and Virginia

Which is to hold its first meeting in Charlotte, N. C., promises to be a great success. The enrolled membership to date is about 200, and is well divided in numbers between the professions of South Carolina, North Carolina and Virginia. The secretary, Dr. P. A. Irving, Richmond, Va., has worked diligently for the success of this first meeting, and it is earnestly desired that so far as possible those who have given in their names shall attend, and that they should interest their friends in the organization and secure their applications for membership. We are informed by the secretary that an interesting and profitable program is being prepared for the approaching session.

Iowa Tax of Itinerant Doctors.

According to the *Med. Sentinel* the Attorney-General of Iowa has ruled that itinerant doctors must pay the State a tax of \$250 per year; and each city and town can likewise assess them afterwards.

Obituary Record.

Dr. Claudius Henry Mastin, Mobile, Ala.,

Died at his home in that city on Monday, October 3, 1898, aged 72 years. Though he had outlived the so-called allotted period of mankind, he was always so vigorous and so much younger than his years, and withal, so rosy and cheerful, that his death came with a sudden shock to most of his friends in the North, and they were legion.

Dr. Mastin was born at Huntsville, Ala., June 4, 1826, received his academic degree at the University of Virginia twenty years later, and began the study of medicine in 1846, as a pupil of Dr. George B. Wood, at Philadelphia. He received his doctorate degree at the University of Pennsylvania in 1849, and in 1875 the honorary degree of LL. D. from the same source. Soon after graduating in medicine he passed several years in Europe, pursuing his studies in the great cities, and returning in 1854 to establish himself in practice at Mobile. His early trend was in the direction of surgery, and at once he attained reputation for skill in that branch. When the Civil War came he entered the Confederate army, finally rising to the responsible position of medical director of the army corps commanded by Lieut. Gen. Leonidas Polk. He returned to Mobile at the end of the war and resumed his practice.

Dr. Mastin was an active member of nearly every national medical society of importance, as well as of his local and State organizations. He was an original member of the American Surgical Association; president in 1891. He was also a member of the American Genito-urinary Association, of the Southern Surgical and Gynecological Association, as well as of the American Medical Association. But he will best be known to posterity as the founder of the Congress of American Physicians and Surgeons, composed of the special societies, which meets in triennial sessions at Washington.

Dr. Mastin was a skilful physician and a keen diagnostician as well as a noted surgeon. His services as a consultant were demanded far and near both as physician and surgeon, and his loss will be keenly felt by a large number of physicians that were accustomed to call for his services in this manner. He was an honorary member of many foreign as well as American medical societies, and among the latter of the American Association of Obstetricians and Gynecologists.

He is survived by a widow, two sons, two daughters, and a brother—his sons and brother being themselves physicians.

Dr. Mastin was a vigorous writer and a frequent contributor to medical journals and magazines. He wrote a remarkable hand, steady, even, letters well formed, punctuation accurate, and page after page fell from his pen without erasures, interlineations, or corrections in any form—it was perfect at first. Truly this remarkable man, whose fame was world-wide, will be mourned by people of both hemispheres.—*Buffalo Med. Jour.*, Nov., 1898.

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Original Communications.

FRACTURES INVOLVING THE ELBOW-JOINT.*

By J. T. WILSON, M. D., Sherman, Texas.

President Texas State Medical Association, etc.

Fractures involving the elbow-joint are of great interest, and always cause more or less anxiety because of their liability to ankylosis—partial or complete—to deformity or to some interference with the perfect function of the joint as a result.

Fractures in this vicinity, *without the capsular ligament*, are not so grave, are under better control, give more satisfactory results, and cause less apprehension. Fractures *within the ligament* are always more troublesome, give rise to more inflammation, demand greater care in their reduction, in the dressing and in the after-treatment. There is always anxiety and doubt, and frequently the result is not what we would like to have it; especially is this sometimes so in a refractory patient. Ankylosis, in various degrees, is generally looked for when union has taken place. It is extremely difficult in many cases to avoid this result; but with care, patience and perseverance on the part of the surgeon and patient, this complication can be remedied, wholly or in part, in nearly all cases. If we will remember that this is a complicated joint, and have the natural anatomical relations of the part well in mind, our management of the case is likely to prove more successful.

It is well, too, for us to have in view the fact that in a majority of cases the lower end of the humerus is the part that suffers from fracture at or near the joint, either a supra-condyloid fracture, or separation of the condyles—one or both.

If there should also be a fracture of the ole-

cranon process of the ulna, or that rare condition of fracture of the coronoid, it would greatly complicate matters, and make it much more difficult to handle.

It is necessary to remember that the muscular attachments to the region around the joint are very great. It is difficult to conceive of a fracture here where the fragments do not involve a muscular attachment, and are more or less displaced by it. Three great muscles of the arm are inserted into the processes of the heads of the bones of the forearm, which help to form this joint, which from their functions and strength exert an influence in almost any fracture involving the joint. Five muscles of the forearm arise in part from the internal condyle of the humerus; except the pronator quadratus, all the anterior or flexor and pronator group take their origin from this condyle; in the radial region, all the extensors and supinators arise in part at least from the external condyle and ridge of the humerus. A knowledge of these attachments is sufficient to indicate the difficulty of confining the broken bones in apposition. In fractures of this joint there is necessarily considerable inflammation ensuing, the cartilage of the articular surfaces being wounded and the investing ligaments lacerated. The amount of callus thrown out is considerable; it hinders motion, and is generally slow of absorption.

My experience has taught me that in these fractures, in order to get the best practical results, it is of supreme importance to keep the parts at absolute rest. To do this, it is necessary to keep the patient in a quiescent state. It is impossible to give the joint that rest so necessary if the patient is permitted to be up and stirring about. Unless he is confined to bed, the injunctions of the surgeon will not be heeded; therefore, for the first few days, or a week, sometimes longer, the bed is the best place. It also gives the system an opportunity to recover from the shock incident to the accident.

With the proper precautions, a fixation-dressing is applied at the very beginning of

* Read before the Southern Surgical and Gynecological Association during its session in Memphis, Tenn., December, 1898.

the treatment. The position of the forearm is a question that has elicited much discussion and a variety of opinions. Eminent surgeons differ greatly upon this subject. Many place the forearm at a right angle with the arm, and others put it in a position of extension; some arrange it in a prone position, and others in a position of supination. In all of these positions good results are reported, and some unfavorable also. Either extreme strikes me as being irrational. Of course, some untoward results must be expected—no matter what the position or the dressing.

The different fractures and the different degrees of fracture require different positions in pronation or supination, and different angles of the forearm. I have been guided in recent years, after the reduction of the fracture, by the rule of placing the forearm in that position which seems to favor best the coaptation of the fragments and the relaxation of the muscles, giving the least deformity, and the flexed position has been the one generally employed.

The arm-joint and forearm are scrubbed as thoroughly as the circumstances will admit, with soap and boiled water; the soap washed off, then the parts bathed with alcohol and rubbed gently but thoroughly until dry. Then the diagnosis is made, if possible, and the dressing applied under an anæsthetic, if necessary, and I generally find it necessary. After placing the arm in a suitable position, relaxing the muscles, and bringing the fragments together with the least deformity possible, it is given into the hands of an assistant, who holds the bones in place; a firm pad of sterilized gauze is placed in front of the joint opposite the broken fragments. I place some stress upon this pad, as it aids in keeping the fragments in position, if of suitable size and properly placed. It should be thick enough for a firm support, but not so thick as to interfere with the functions of the splint, and in most cases a spiral reversed roller is applied from the hand to the axilla.

Many surgeons reject these bandages as being useless and interfering with the splint; but I prefer to use it. It controls muscular action, is a good protection to the limb, and assists in holding the parts in place; if nicely applied it adds comfort, and does not interfere, in my judgment, with the splint performing its proper function.

The anterior splint is then put in place—one with a ratchet hinge, much like the one of Dr. Agnew, which can be placed at any angle desired, and made to extend from near the wrist to above the insertion of the deltoid. A paste-

board trough is then moulded to the posterior surface of the arm and forearm, extending from the axilla to the ends of the fingers, and both are confined by a roller. The patient is put to bed for at least the first week—longer if necessary—depending upon his disposition and the extent of the injury. If fairly comfortable, and no contra-indication arises, the dressing is not disturbed until the third or fourth day, when it is removed carefully with the aid of an intelligent assistant, to prevent displacement of the fragments. If the inflammation has subsided sufficiently, the correct position is maintained by the anterior splint firmly applied, a carefully moulded plaster-of-Paris trough is fitted posteriorly. This must be adjusted nicely in order to support the fragments, keeping them in place posteriorly and laterally. This plaster mould should also extend from the axilla and support the hand, and should not be too heavy and cumbersome, which is a serious fault with many plaster dressings, but firm enough to thoroughly fix the joint and arm. This can be done by having some strips of heavy gauze or cheese cloth, measured by the sound arm, and carefully cut to the proper size; the plaster is thoroughly rubbed in these, and they are applied—the arm being well protected—layer by layer, a solution of plaster rubbed in between each layer until the thickness desired is secured. While this is being done, the arm and forearm is maintained at the proper angle, and the fragments are held in place by the anterior splint, which has been secured by a roller—an assistant steadying the arm—and the whole is supported by an outside roller. This dressing can be controlled at will, and if nicely applied, is not so cumbersome as it would seem. If it becomes desirable to change the position or angle, the plaster trough can be taken off by simply removing the roller, the position changed, and a new trough applied.

I prefer to have the anterior splint made of wood, broad enough to cover the joint, and yet not extending quite to the ends of the epicondyles, the joint fitting closely down to the bend of the elbow, the ratchet notches changing not more than the eighth of an inch at each movement. If properly made, this splint is light enough, and yet firm enough for all practical purposes, and much of its usefulness depends upon its fitting well. If extension and counter-extension become necessary, the plaster splint can be moulded so that it will extend up under the axilla, and the anterior splint will make sufficient counter-pressure by means of the roller. This gives a firm, fixed

dressing, keeping the parts at rest, so necessary in all inflammatory conditions of the joints. If the fragments have been thoroughly replaced and kept in apposition, there ought to be in most cases very little trouble.

The patient should be seen frequently, and the joint examined at any time when there seems to be an indication for it; this should never be done, however, if there is no special indication for it after the permanent dressing has been applied, and the surgeon feels satisfied that the fragments are in place. I believe that the old practice in removing the dressing and instituting passive motion on the seventh or eighth day is capable of great harm. It seems to me that it rekindles the inflammatory spark that is yet smouldering, and sets the fire of mischief to burning anew, thereby increasing the danger of troublesome ankylosis. The fractured parts are not yet firmly enough united to withstand the force necessary to break up strong adhesions of the joint if any exist. Great care is demanded in the attempt to break up these adhesions, which at this stage is best done gradually. Violent motion in the early stages of repair is not productive of good results. Gentle motion, frequently repeated and persevered in, will often accomplish more than sudden forcible separation with the shock attending it.

If the fragments have been kept well in place, and the joint at complete rest, the danger of permanent ankylosis is not great. After three or four weeks, the dressings can be removed, the joint examined with care, and passive motion gently instituted; if there is much pain it may be necessary to give an anæsthetic. This will also relax the muscles, and the danger of causing severe inflammation by rough handling or refracturing the parts is not so great; if only fibrous bands exist they can be broken up. I always favor anesthetizing the patient at the first examination, if any considerable degree of ankylosis exists, and in subsequent manipulations if much pain is caused.

Rubbing and systematic massage is of great value. If the stiffness is not readily overcome, efforts to do so should continue, and after five or six weeks have passed, the patient is to be instructed to take gentle exercise, not violent, twice daily, with Indian clubs and dumb bells, neither of which should be too heavy. He is advised to use the hand and arm constantly, and in time, in the great majority of cases, he will be rewarded with success. In some cases the improvement may take many months before the function is restored, and it sometimes

comes on so gradually that its progress is almost imperceptible. If there are several fragments of bone, and some of them so small that a good apposition cannot be maintained, it would be better to remove them entire, thus saving time and trouble, and giving a more favorable chance for a better joint. If the sharp end of a fragment pierces the ligament, it may prove very difficult to return it to its place within, and the reduction may be only apparent, the ligament intervening, which is liable to cause trouble.

If ankylosis has supervened upon a fracture, and many months of patient effort at restoring the functions of the joint proves futile, an operation is justified; if a fragment of bone is causing the trouble, it can be removed. A resection will often give a good, useful joint.

REMARKS ON EXOPHTHALMIC GOITRE.*

By J. HERBERT CLAIBORNE, M. D., of New York.

Gentlemen,—Exophthalmic goitre is known by the synonyms of Basedow's disease and Graves' disease. At the beginning of my remarks I wish to enter a protest against calling a disease by the name of a man. The terminology of our profession is already littered by many useless terms, and it seems high time that diseases should be known by names which indicate one or more marked symptoms or give an idea of the cause or some prominent feature of the pathology.

At the first blush, I can conceive of no better name than exophthalmic goitre for the disease which so frequently is known as Basedow's and Graves' disease.

SYMPTOMS AND GENERAL CONSIDERATIONS.

The three most prominent and constant symptoms are: Acceleration of the heart-beat, exophthalmus, and goitre; and yet, gentlemen, of these three, we are told that the most constant is tachycardia, and that either the exophthalmus or the goitre, or both, may be lacking. If I should find a case in which there was tachycardia and other symptoms, and goitre and exophthalmus lacking, I should cast about for another name by which to describe the condition. In short, from my experience and from the standpoint of common sense, I believe that goitre and exophthalmus are found in every case of this affection when the disease has reached its climax.

* Read before the New York County Medical Association, December 19, 1898.

The disease has been described as a chronic neurasthenia or atonic condition of the vaso-motor centers and the vagus and spinal accessory nerves. Whether that is intended as a definition of the disease or a description of its pathology, it is equally unsatisfactory. I hope I shall not go too far into casuistry when I say that I believe there exists a decided lesion in every modification of function in the human system, whether that modification be temporary, as in so-called functional disorders, or whether it be permanent, as in so-called organic changes. Huxley has said that as science has shown that all modifications in material things are due to motion and change in particles, so he believes that the time will come when more delicate means of investigation will prove that so-called psychical conditions are due to change of state in things which are to us now non-material. In a word, gentlemen, I believe in a lesion in continuity in all disorders of the human body, whether these disorders be what is known as functional or what is known as organic. Time and investigation will probably reveal the means by which this will be demonstrated.

THEORIES CONCERNING THE CAUSE, ETC.

The theory that exophthalmic goitre is due to a derangement in the cervical sympathetic is probably the most universally accepted one. The writer quoted above describes it as a neurasthenia or atonicity; others regard it as due to a positive lesion in this nerve. There are several objections to these views which may be really regarded as one. It is maintained that the lesion in the cervical sympathetic produces a dilatation of the blood vessels of the thyroid and of those of the post-bulbar tissues by a paralysis of the vaso-motor nerves of these regions. At the same time that this condition is produced, it is claimed that the constant irritation of the vagus and spinal accessory interferes with the proper inhibition of the heart.

One set of symptoms, then, you will observe, is explained on the ground of an absolute lesion in the continuity; the other, on the ground of an irritation. This is obviously unsatisfactory and irrational. The lesion of the sympathetic, if it exists, ought to produce at the same time the symptoms of a lesion of the vagus and the spinal accessory, inasmuch as these nerves run in the same channel with the cervical sympathetic. The action of the heart in this disease is not characteristic of lesion of the vagus. In fact, it is just the reverse. Lesion of the vagus will, of course, produce a slowing of the heart; whereas

over excitation of this organ is a prominent characteristic of this disease. Moreover, if there were a lesion in the region indicated, the cilio-spinal center would be affected and some pupillary symptoms would exist.

Let me recall for a moment the different effects of the lesion and the irritation on the cilio-spinal center. If there is irritation at the cilio-spinal center, mydriasis, as is well known, will occur on the corresponding side. If there is a lesion, myosis will occur. You are well acquainted with the myotic condition of the pupil in locomotor ataxia. This, in broad terms, is the Argyll-Robertson symptom. But there is neither mydriasis nor myosis in exophthalmic goitre; so it seems to me that this fact alone excludes the sympathetic as the seat of the lesion. As an argument that is contributory to the above evidence, although seemingly not conclusive, we can record that cutting of the sympathetic in animals does not produce dilatation of the blood-vessels of the neck and orbit (?), and that it does produce the classical effect upon the pupil. It is true that post-mortem examinations in cases of exophthalmic goitre have shown changes in the sympathetic in a few instances, but this has been lacking in the large majority. These considerations, it seems to me, render the sympathetic theory of exophthalmic goitre untenable.

Prof. Sattler, of Erlangen, has adopted the theory of a central lesion for this disease, but the symptoms which occur have to be explained on the ground of several simultaneous lesions which must be separated at a considerable distance from one another; or it must be assumed that the centers, the lesion of which produces these symptoms, are congregated closely together. Anatomical investigation does not warrant either of these assumptions. He supposes that a lesion of those portions of the vaso-motor center of the brain (?) which preside over the vaso-motor nerves of the thyroid and intra-orbital tissue exists, and induces as an argument in favor of this view the great constancy with which enlargement of the thyroid and exophthalmus are present. He thinks the cardiac symptoms are due to a lesion of the heart inhibitory center of the pneumogastric.

The theory of Prof. Sattler is supported in some respects by the experiments of Filenne. This experimenter divided the restiform bodies in their upper quarter without, however, carrying the incision so deep as to wound the roots of the vagus. Nevertheless, the function of this nerve became impaired, and exophthalmus was produced; yet the thyroid did not swell, but there was vaso motor paralysis in

the ears, thyroid and anterior part of the neck. His latest conclusions are that exophthalmic goitre may be produced by paralysis of certain nerve regions controlled by the medulla, and that the points which are traversed by the nerve pairs in common are in the restiform bodies. The exophthalmus and goitre are due to dilatation of the blood vessels of the orbit and thyroid, and that the tachycardia is due to an interference with the tone of the pneumogastric. To establish the correctness of this theory, post-mortem investigations are necessary. No such evidence as this is to be found in the literature at present. The disease occurs more frequently in women than men (4-1), and chiefly in early adult life between the ages of 15 and 35.

We will now pass to a consideration of the other symptoms. The symptom which is positively constant when exophthalmus exists, and is said to exist under all circumstances, is the *Græfe symptom*. It is observed in this disease that there is a lack of association between the upper lid and the movements of the cornea in looking downward. If an object be held above the median line, the patient be directed to fix it, and to follow it as it is brought downward below the horizontal plane, it will be observed that a rim of sclera will show between the free border of the upper lid and the cornea. This is a marked symptom, and has been set down as absolutely pathognomonic of exophthalmic goitre.

There is some confusion in regard to the *Stellwag symptom*. The patient presents the appearance of a frightened stare, which is due to retraction, apparently, of the upper and lower lids. This has been erroneously termed Stellwag's symptom—but speaking properly this is *Dabrymple's symptom*. Stellwag's symptom is the infrequency of nictitation, which is observed in exophthalmic goitre; it is due either to slight anesthesia of the cornea, or, as Sattler again has suggested, to abolished tone in the reflex centre for nictitation. Great nervousness, tremor of the hands, sweating, insomnia, subjective sensations of heat and flushing of the face and body have been observed, and may be denominated the minor symptoms. Diarrhoea and polyuria are sometimes noticed, and the neurologists inform us that the electrical resistance of the body is diminished. There is another symptom which has been observed only of late years, and is known as the *Fiske-Bryson symptom*. This symptom consists of diminished power in expansion of the chest. All those who have made investigations in this

matter since the discovery of this last symptom are convinced of its uniform occurrence.

The facial expression of a patient with exophthalmic goitre is markedly characteristic. Yet, we know that there are people with strangely prominent eyes who are not afflicted with this disease, and that there are others who have not this symptom who are the subjects of this disease. It becomes one always, therefore, in making a diagnosis to endeavor to elicit the Græfe symptom. If that be associated with tachycardia and dilatation of the thyroid, the diagnosis may remain no longer in doubt.

CAUSES.

The cause of the exophthalmus is still indeterminate. It is usually attributed to stimulation of the muscle of Mueller, which is said to be under the control of the sympathetic. I, myself, have observed in this affection that there is generally a set expression about the muscles of the face. The features are not as movable as would be expected in health, and as certainly might be expected in the hysterical condition of most of these patients. I believe that exophthalmus and retraction of the lids are due in a measure to want of proper action of the obicularis. It is often observed that eyes of persons affected with exophthalmus possess hyperopic refraction. If an eye were emmetropic beforehand, the hypermetropia would probably not be very great; if hyperopic beforehand, it would be more so. If myopic in the beginning, less myopic. This would be due to pressure from behind and consequent flattening of the eyeball. As a rule, both eyes are affected; when only one is affected, it is usually the right. When the right eye alone is affected, we usually find that the right side of the thyroid gland is affected. When both sides of the thyroid are affected, it usually starts simultaneously on the two sides. The isthmus becomes enlarged afterward. When the disease has existed a long while the orbital fat increases in quantity. This, with dilatation of the blood vessels, is a reasonable explanation in severe cases of exophthalmus.

For my part, I take but little interest in the theory that the muscle of Mueller is a factor in causing protrusion of the eyeball. It is not impossible for one whose mind is turned toward constant contemplation of nervous affections to mistake the incipient symptoms of this disease for something else. I remember on one occasion a physician brought a patient into the eye-room of the Vanderbilt Clinic for indefinite symptoms, in which headache played a part.

The patient was extremely nervous, with decided tremor of the hands, hesitation in speech, and was flushed in the face. I immediately applied the Græfe test and found there was a lack of association between the upper lid and the cornea in the movement downward of the eyes. Subsequent examination of the neck revealed a light enlargement of the thyroid on the right side. With these symptoms before us, we readily made a diagnosis of commencing exophthalmic goitre.

Concerning the development of this disease, it is safe to say that its course is slow, although it has been known to occur suddenly after great mental excitement, prolonged physical exertion, and excessive sexual excitement. For my part, I do not believe that any case of exophthalmic goitre gets entirely well. The enlargement of the thyroid may disappear, the exophthalmus retire so that it is scarcely worthy of suspicion, and the heart symptoms can be practically abolished; but, under any form of excitement, the heart will take on the characteristic behavior. It is said that the duration of a recoverable case is two or three years. Many do not recover; the patient emaciates, the heart becomes weaker, and some intercurrent affection closes the scene. Some cases are said to reach a certain point and remain there during the life of the individual. Post-mortem examination, as has been stated, is singularly barren of results. Small hæmorrhages in and congestion of the medulla have been found.

Before speaking of the treatment of this affection, it is well to refer to the most recent theory as to its origin. It has been suggested that the disease is primarily an affection of the thyroid gland. The gland is supposed to be overactive, and the flow into the system of some substance irritates the nerves. This idea is so extremely vague that it is hardly entitled to consideration.

Myxœdema may be said to be the very antithesis of this affection. In myxœdema the thyroid decreases in size, atrophies, and finally disappears, and the list of symptoms are the direct opposite of those of exophthalmic goitre. As is well known, many experiments have been made of late to determine the effect of the thyroid secretion and substance in those suffering from myxœdema. The death-blow to the thyroid theory or exophthalmic goitre lies in the fact that all the other symptoms may exist without enlargement of the thyroid.

The pathology of the disease is that which mostly interests scientific men. We can only hope for intelligent therapy when once the cause and the conditions produced by the cause are explained.

TREATMENT.

It is quite safe to say, then, that the treatment of exophthalmic goitre is the treatment of the symptoms. Rest is enjoined as a matter of course; freedom from excitement, worry, over-exertion, and sexual indulgence, are rational suggestions. Many drugs have been used, of which strophanthus, iodide of potash, arsenic, bromide of potassium, and general tonics are prominent. Belladonna has frequently been used, the drug pushed to the point of tolerance. Digitalis is supposed to be not so valuable as strophanthus. Neurologists consider electricity to be possessed of some utility. The surgeon has not failed to try his hand at the treatment, and several cases have been reported in which it has been claimed that partial removal of the thyroid has produced good effects. Dr. Bryson has suggested exercises for the respiration.

To sum up the evidence in this matter, it is fair to say that exophthalmic goitre is an affection whose cause and pathology are not definitely known. The most prominent symptoms are tachycardia, exophthalmus, thyroid enlargement, tremor, general nervousness, hysterical explosions, insomnia, and diminished respiratory expansion. The treatment is largely symptomatic.

39 West 36th St.

REFLEX EFFECTS OF PSYCHIC STIMULI-- A CAUSE OF PERIPHERAL DISEASE.

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The common disposition among medical men to attribute all pathological conditions to tangible physical causes is my excuse for this article; and perhaps it would not now find the light but for the experience of its author in a railroad accident which caused the loss of sight in one of the eyes of the friend, who was with him at the time of the accident, and which, the author is firmly convinced, resulted from the psychic shock then received.

For want of time and space, I shall not attempt anything like a full discussion or extended elaboration of either the scheme of reflex action, or the principles and mechanism involved in central localization, but shall assume a familiarity on the part of the reader with the details of these, to the neuro-pathologist, most important subjects. Nor shall I undertake a detailed description of all the dis-

eases which could reasonably be attributed to faulty nutrition, caused by deranged innervation of the parts involved, the result of too violent or misdirected neuro-stimulation. A few words, however, as to how impressions are received by the nerve centres and discharged to the peripheral organs are obviously necessary.

All nerve currents run through sense organs, on their way to the nerve centres, where they provoke reflex acts in the lower or purely animal centres, and arouse ideas in the hemispheres (ideational and inhibitory centres) which either permit the discharge of reflexes from the lower centres to the periphery, check them, or substitute others for them.

My thesis, therefore, is that:

Every sensorial excitement transmitted to a lower centre must spread upwards to the higher centres and arouse an idea.

Every idea thus aroused tends ultimately either to produce a movement, or check one which otherwise would be produced.

All nervous centres, from the lowest to the highest, are made up of nothing else than nervous arrangements, representing impressions and movements.

Meynert calls the cortex of the hemispheres, the surface of projection for every muscle and every sensitive point of the body. The muscles and the sensitive points are represented each by a cortical point, and the brain is nothing but the sum of all these cortical points.

An unusual violence transmitted to a nerve centre by its afferent nerves will excite a correspondingly violent discharge over its efferent nerves in their usual track, or excite a discharge in an unusual direction to some part unaccustomed to the visitation, and cause those abnormal organic conditions which we call disease.

I shall endeavor, in as simple a manner as possible, to illustrate my meaning by the use of the much used example of the "burnt child dreads the fire." A child sees a candle flame for the first time, and by virtue of a reflex tendency, common to all children of a very tender age, extends his hand to grasp it, with the result of burnt fingers. So far we have two reflex currents in play; from the eye to the extension movement, and, secondly, from the fingers to the movement of drawing back of the hand.

Now, if this were the child's whole nervous system and the reflexes were never more than organic, we should have no alternation in his behavior, no matter how often the experience might be repeated. The retinal image of the flame would always make the arm go forward, the burning of the fingers would always send it back.

But we know, for a truth, that the "burnt child dreads the fire," and that one experience usually protects the fingers forever. This is because, fortunately for the fingers, there are other centres in the child's nervous system than those necessary for the performance of simple reflex acts. We have the hemispheres where are found the ideational and inhibitory centres, where the fact that the flame burns is perceived and recorded, and from which the mandate to desist is telegraphed downward to the lower centres.

The current from the eye discharges upward as well as downward when it reaches the lower centre for vision, and arouses the ideation (perception) centres in the hemispheres; the feeling of the arm's extension also sends up a current which leaves a trace of itself; the burnt fingers also send a current which leaves a trace of itself; and the movement of retraction also leaves a trace of itself. These processes will be so intimately associated in the record indelibly made upon the child's brain, that the ideas of extension, of burnt fingers, and of retraction will pass in rapid succession through the mind whenever a flame is presented to view. Of course, the next time the flame is shown to the child, the sight of it will arouse the grasping reflex; but it will simultaneously arouse the idea thereof, together with that of consequent pain, and of the final retraction of the hand; and, if these cerebral processes prevail in strength over the sensations in the centres below, the last idea (retraction) will determine the conduct of the child. The grasping will be arrested in mid career, the hand drawn back, and the fingers saved.

That every impression falling on the nervous system must propagate itself somewhere and give evidence of its discharge in some way—whether that discharge be recognized by the individual or not—is a well known and generally accepted principle in psychological physiology.

The different systems, organs, and apparatuses of the human body are so intimately and delicately united by the nervous system that an injury or violence to one necessarily affects all the others in a greater or less degree. Witness the formation of gastric ulcer as a result of extensive burns of the skin, etc.

Impressions that come to us *when the thought centres are pre occupied may be blocked or inhibited from invading these, and thus be forced to overflow into lower paths of discharge.* If this process occur often enough, or with violence enough, the side track thus created will become so permeable as to be used, no matter what may be going on in the centres above. That

this side tracking most probably terminates in organic processes, such as muscular contractions (epileptic discharges, chorea, palmus, athetosis, progressive muscular atrophy, etc.), which may cease with removal of cause, or, by permanently deranging innervation, may themselves become permanent, and produce injuries to nutrition which may never be removed, is one of the essential contentions of this argument. Much of this is unquestionably due to the overflow of emotional excitement during anxious and concentrated thought.

It is a law of almost universal application that incidental nerve stimuli tend to discharge through paths already discharging, rather than create new ones for themselves, thus protecting the nerve centres from interference from without. But with the nervous system, as with the better understood and less delicate systems and apparatuses of the animal economy, this conserving and protecting law can be overcome either by constant infraction or irresistible violence, and its overthrow always results in more or less damage to the organs supplied by the nerves involved.

Psychic shock is but a sudden perversion of this law by some unexpected impression too violent to be discharged through the channels provided by nature for the reception and disposal of the impression, whatever its point of entrance, or through which of the sensory tracks it may be transmitted to the centres, and is always productive of more or less injury to the peripheral organs to which the impressions are reflected. This injury may not always be, and in the majority of cases is not recognized either by the individual or his physician, but it has been inflicted nevertheless, and is apt to be of a more or less permanent nature. The injury done by psychic shock does not always show itself in the peripheral organs immediately, but, in fact, most generally is not made evident by subjective symptoms until a greater or less time shall have elapsed. The reason for this is evident. The damage done to these organs is one of nutrition, which necessarily requires time for its grosser manifestations.

It will by this time be apparent that I regard the whole neural organism, physiologically considered, as but a machine for converting stimuli into reactions, which, when conducted within the bounds established by nature, tend to promote the healthy nutrition and growth of the organs to which they are distributed.

As I have already hinted, every impression which impinges on the afferent nerves, produces some discharge along the efferent nerves,

whether we are aware of it or not. Putting this in more startling language, I might say *that every possible sensation produces a movement, and that the movement is a movement of the entire organism, and of each and all of its parts.* That which happens patently when an explosion startles us, happens latently with every sensation which we receive, and differs the one from the other only in degree.

There are probably no exceptions to this diffusion of every impression through the nerve centres. The effect of the wave through the centres often is to interfere with processes, and to diminish tensions already existing there; and the outward consequences of such inhibitions are the arrest of discharges from the inhibited regions, and the checking of bodily activities already in process of occurrence. When, in walking, we suddenly stand still because a sound, sight, smell, or thought catches our attention, something like this occurs. But there are cases of arrest of peripheral activity, which depend, not on central inhibition, but on stimulation of centres which discharge outgoing currents of an inhibitory nature. Whenever we are startled, for example, our heart momentarily stops, or slows its beating, and then palpitates with accelerated speed. The brief arrest is due to an outgoing current down the pneumogastric nerve.

In general, however, the stimulating effects of a sense impression preponderate over the inhibitory effects, so that we may say that the wave of discharge produces an activity in all parts of the body. The task of tracing out all the effects of any one incoming sensation has not yet been performed by physiologists, but enough has been discovered to prove the truth of the law of diffusion to be, "*a process set up anywhere in the centres reverberates everywhere, and in some way or other affects the organism throughout, making its activities either greater or less.*"

Let us now briefly pass in review some of the effects on the other systems and organs of the body by these stimuli, which prove the truth of this law of diffusion.

The Effects upon the Circulation.—We have just noted those upon the heart. Haller long ago recorded the fact that the blood from an open vein flowed out faster at the beat of a drum. Mosso has taught us that the circulation in the brain is instantaneously altered by changes of sensation and of the course of thought. The effect of objects of fear, shame, and anger upon the blood supply of the skin, especially that of the face, are too well known to need remark. Sensations of the higher

senses produce most varied effects upon the pulse-rate and tension, which still occur when the pneumogastric nerves are cut, thus showing the vaso-motor effect to be direct and not dependent upon the heart.

The effects upon respiration of sudden sensory stimuli are also too well known to require extensive elaboration. We "catch our breath" at every sudden sound. We "hold our breath" whenever our attention and expectation are strongly engaged, and we sigh when the tension of the situation is relieved. When a fearful object is before us we pant and cannot deeply inspire; when the object makes us angry it is the act of expiration which is retarded.

On the glands, similar consequences of sensorial stimuli are observed. Every kind of nervous activity, from the simplest sensations and impressions, to voluntary motions and the highest forms of mental exertion, is accompanied by increased activity in the glands. That the glands are effected in emotion is evident enough in the case of the tears of grief, the dry mouth, moist skin, or diarrhoea of fear, the biliary disturbances which sometimes follow rage, etc. The watering of the mouth at the sight of succulent food is well known.

On the pupil, observations are recorded which show that a transitory dilatation follows every sensorial stimulus applied during sleep, even if the stimulus be not strong enough to awaken the subject. At the moment of awakening there is a dilatation, even if a strong light falls on the eye. *The pupil dilates enormously* under the influence of FEAR. It also dilates in pain and fatigue, and contracts, on the contrary, in rage.

Effects on the Abdominal Viscera.—The bladder, bowels, and uterus respond to the sensations, even very slight ones. The bladder has been called "as good an aethesiometer as the iris," and every physician knows the common reflex effects of psychic stimuli in the human female upon this organ. Every one is familiar with the contractions of the sphincter ani, which even slight sensations will produce. The effect of reflex stimulation upon the pregnant uterus need not be mentioned, they are so well known.

It is difficult to follow the smaller degrees of all these reflex changes, but it can hardly be doubted that they exist in some degree, even where they cease to be traceable, and that all our sensations have some peripheral effect.

Effects on Voluntary Muscles.—Every sensorial stimulus not only sends a special discharge into certain particular muscles dependent on

the special nature of the stimulus in question, but it innervates the muscles generally. If simultaneously with the normal neuro-stimulation of the muscles there is an exaggerated sensorial impression, the contractions are some times weakened and sometimes increased. This reinforcing effect has been denominated by psychological physiologists *dynamogeny*. This dynamogenic action is seen in the response of muscles to musical notes. When the notes are compounded into sad strains, the muscular strength is diminished. If the strains are gay or martial, it is increased.

Every one is familiar with the *patella reflex*, which is produced by smartly tapping the tendon below the knee-pan when the leg hangs over the other knee. Dr. Weir Mitchell has found that when other sensations come in simultaneously with the tap, the jerk is increased. Heat, cold, pricking, itching, faradic stimulation of the skin, strong optical impressions, or aggravated sounds, all have this dynamogenic effect, which also results whenever voluntary movements are set up in other parts of the body, simultaneously with the tap.

The dynamogenic effects, in which one stimulation simply reinforces another force already under way, must not be confounded with reflex acts, properly so-called, in which new activities are originated by the stimulus.

All manifestations of emotion are reflex acts. Underneath those of which we are conscious, there seems to go on continually other reflex acts smaller in amount, which might be called fluctuations of muscular tone, the exaggeration of which, by violent or unusual stimulation, produce those obscure diseases whose *raison d'être* we cannot discover.

To influences such as I have endeavored to set forth in the foregoing are due those manifold derangements which so frequently follow upon railroad accidents, in individuals who show no sign of physical injury at the time of the accident, and which are so insidious in their development, and so obscure in their semeiology.

In railroad accidents, all the conditions exist for calling into play simultaneously all the various forms of impressions and stimuli to which it is possible for the nervous system to be subjected, and the surprise is rather that any should come out of one of these fearful experiences uninjured, than that so many should be found developing evidences of serious injury to the nerve centres in impaired nutrition of peripheral organs. Here we have concentrated thought, fear, horror, and sensorial excitement, all in simultaneous activity,

discharging at the same time in every direction their exaggerated stimuli to the peripheral organs. In this state of highest possible tension, is it, then, at all surprising that the compensating forces in some one or more of these violently attacked citadels of health should give way, and the victim, in a few days or weeks thereafter, find himself failing in some one or more of his vital functions?

Dr. Landon Carter Gray, in his great work on *Nervous and Mental Diseases*, says: "If all the symptoms following upon shock received in railroad accidents are analyzed, no other conclusion can be reached than that they are the effect of exaggerated reflex action."

We should, therefore, be very careful not to overlook an injury to the nervous system in all cases presenting themselves to us after railroad or other severe accidents, and always remember that time and careful observation are absolutely necessary to exclude an implication of the peripheral nerves in any injured organ.

The following list of symptoms usually found following upon railroad accidents is taken from the work of Dr. Gray cited above:

"Subjective symptoms are perversions of—

The senses of touch, pain, temperature, and muscular sense;

Paræsthesia;

Hearing;

Sight;

Smell;

Taste;

Urination and defecation;

Sexual sense;

Vertigo;

Losses of consciousness, with or without convulsions;

Insomnia;

Nervousness;

The mental condition.

Whilst objective symptoms are—

Paralysis;

Exaggerated tendon and sensory reflexes;

Contracture;

Ataxia;

Muscular atrophy and hypertrophy;

The attitude and gait;

The ocular and retinal conditions;

Œdema and swelling;

Fractures and dislocations;

The facial expression."

A careful analysis of the above group of symptoms, as Dr. Gray so aptly says, forces one to the conclusion that they are the effect of exaggerated reflex action, or which, I think, is equally probable, injury to the cells constituting

the reception and distributing centres themselves.

In my opinion, the trouble in the case which follows was primarily one of neuro-retinitis, the result of impaired nutrition consequent upon a too violent discharge of concentrated psychic stimuli to an organ already weakened by heredity:

CASE.—On the evening of August 3d, 1897, my friend and colleague on the medical staff of this hospital, Dr. J. M. H., drove into the city of Petersburg in my buggy, which, as we were crossing the tracks of the Atlantic Coast Line on Washington street, about 8:15 o'clock, was demolished by a freight train backing upon us. The accident was attended by the usual noise, confusion and other excitement incidental to such occasions. The wrecking of the buggy was complete, but, curiously enough, neither of us sustained any apparent physical injury except the insignificant scratches related below. I will let Dr. H. briefly relate his own experience in his own way: "I was first to see the approaching train, and warned my friend, who was driving, but too late to avoid the accident. At the time, the only effects I suffered were a good scare and shaking up, some slight bruises on my knees, a considerable nervous agitation, and for several days thereafter, a slight pain and stiffness in my back, and insomnia. About a week, or ten days at the farthest, after the accident, I noticed a small black spot about the size of a pin's head (*muscoe volitantes*) before my left eye, which several days afterward was increased to many specks or spots. Some time toward the end of the month (August, 1897), I consulted an eye specialist, Dr. Merrick, of Richmond, who examined my eyes thoroughly, and said he could detect no disease, but that vision was not so good in the left eye as in the other one. I saw him again in about a week, when he examined my eyes very carefully, and told me he thought he could detect something wrong in the retina, but was not positive. He ordered glasses, which gave little or no relief. I suffered no pain whatever.

"About the middle of October, 1897—my eye still growing worse, the whole atmosphere looking as though filled with particles of coal dust—I consulted Dr. John Dunn, of Richmond, who said I had a case of 'panophthalmitis,' and that at that time, owing to the clouded condition of the vitreous, he could only see, with difficulty, and not at all distinctly, the retina. Dr. Dunn examined me thoroughly from head to foot, and said he was at a loss to know the cause of the condition of my eye. The inflammation gradually in-

creased—involving the whole eyeball. During December, 1897, I consulted Dr. F. M. Chisholm, of Baltimore, concerning the condition of my eye, and he told me substantially the same as Dr. Dunn had. The condition of my eye remained about the same for several months longer, when it began to gradually improve. About the first of April, 1898, as well as I can recollect, there came on, somewhat suddenly, some opacity of the lens, which has not disappeared at this date (December 24, 1898). [The doctor has cataract—S.] I, at no time, have suffered pain to any extent on account of the inflamed condition of the eye. Of course, my eye was during all this time very weak, and, if exposed to light, would fill with tears. At the present time it is giving me no other trouble than being rather weak; and, on account of the opacity of the lens, I cannot see well enough for it to be of service to me in the way of reading, writing," etc.

A careful analysis of this case, with its gradual development, freedom from pain, extensive involvement, and direful consequences, I believe, will establish the correctness of my opinion that the disease was primarily a neuro-retinitis, the result of impaired nutrition consequent upon a too violent discharge of concentrated psychic stimuli, which was, in its turn, the result of damage done at the time of the accident to the cortical cells of the *cuneus* by the violent psychic shock to which the doctor was then subject; and that the cataract since developed is the result of strangulation of the lens by the inflammation in the surrounding structures. Of course this accounts for the inability of the first specialist who examined the eyes to discover any lesion whatever, and the confusion of the others when called upon to assign a cause for the trouble; for the primary lesion was out of the reach of their instruments of precision.

VERATRUM VIRIDE IN PUERPERAL ECLAMPSIA.

By H. R. COSTON, M. D., Fayetteville, Tenn.

Puerperal eclampsia is the most distressing complication with which the obstetrician can come in contact; no other complication demands a cooler head, or a more positive effort on his part.

Herman¹ says: "No treatment has been proved to do good." He mentions chloral, morphine, and chloroform as the remedies to

be tried. He does not name *veratrum viride*. Potter² deems the latter remedy dangerous, uncertain and deceptive in its action, comparing its action in eclampsia to that of the antipyretics in typhoid fever and pneumonia.

I do not concur in either of the foregoing conclusions of opinions, because *veratrum viride* has been proved to do much good, and is neither dangerous nor uncertain in its action. *I believe veratrum viride possesses direct anti-eclamptic properties.*

Whatever may be the exciting cause of eclampsia, it kills by collapse of the nervous centers. Dr. John Gordon,³ after detailing a case in which a five-drop dose of the fluid extract of *veratrum viride* reduced the pulse from 92 to 52 in a few minutes, and left it below 60 per minute for nearly eleven hours, concludes as follows: "We have, therefore, in *veratrum viride* an agent the physiological properties of which meet the supposed pathological conditions in puerperal eclampsia—namely, increased arterial tension and cerebro-spinal excitement."

In reply to Potter's assertion that *veratrum viride* is dangerous, it is only necessary to point out that Shoemaker says that one ounce of the tincture of *veratrum viride* has been swallowed without fatal effects. (Shoemaker, *Therapeutics*). I have, myself, used two drachms in less than 12 hours, and more than one-half ounce in 48 hours (*Vide*, Case VII, *infra*). Bartholow (*Mat. Med. and Ther.*) says: "Give 3ss doses of fluid extract of *veratrum viride* every 15 minutes, until nausea and vomiting occurs." But I think it much better to use this agent hypodermically, and use the pulse as a guide—never being content until the pulse is reduced to or below 60 per minute. In other words, let the size and frequency of the dose be governed by the effects produced—never allowing the pulse to rise above 60 per minute until coma passes entirely away. The profuse sweating produced by the remedy relieves the kidneys of much work. *Veratrum viride* stimulates the vagus center, as is evidenced by the lower and fuller pulse and more regular breathing. (Brunton).

As additional evidence of the value of *veratrum viride* in puerperal eclampsia, I wish to offer the history of seven cases that have come under my treatment. Of the seven cases none died—all having been treated with *veratrum viride*. Five were *ante-partum* cases; two *post-partum*; six of the mothers were *primiparæ*; the other one was *tripara*.

¹ *International Clinics*, July, 1897.

² *Buffalo Medical and Surgical Journal*, September, 1897.

³ *Lancet*, October 15, 1897.

CASE I.—Mrs. J. H. E. During her third confinement, convulsions developed half an hour after a normal and rapid delivery. I gave chloral hydrate, gr. x; kali bromid, gr. xx; tinct. verat. virid. gtt. iij. The convulsions were not repeated. Medicines were kept up every four hours for 24 hours; good recovery.

CASE II.—Mrs. R. L. A., æt. 20. Primipara. Drs. X. and Y. had been with this woman twelve hours, and left her undelivered, and in the deep coma of eclampsia, telling the family that she would die. They had been using chloral hydrate and bromide of potash, with morphia.

After they left I was called—four miles away into the country—and found the child had been born in the absence of a physician. I at once put her on five-drop doses of fluid extract veratrum viride hypodermically, and repeated the dose in 30 minutes once, and then at longer intervals. She had no further convulsions, and was conscious at the end of 24 hours. Recovery uneventful.

It will be observed that in the two foregoing cases I used small doses, and I did so for the simple reason that I was afraid of the remedy, just as many, after whom I read, now are. In the following case, I used this same medicine in large doses, and from that time forth I have not feared its toxic effects.

CASE III.—Minnie H., colored, primipara, æt. 20, single, eight months pregnant. I was called at 6 A. M. April 20th by Dr. F., and found the woman comatose from convulsions, which had been recurring at intervals all night—notwithstanding the large doses of morphia which Dr. F. had been using. Os uteri was only partially dilated. Dr. F. gave chloroform, and I dilated the os manually and delivered by forceps. Convulsions recurred every two to four hours despite the large and oft-repeated doses of morphia hypodermically.

April 21st, she seemed some better, but convulsions occurred several times during the day. Morphia continued, and also gave pilocarpin hypodermically. Dr. F. continued the same treatment during the night of the 21st, and also purged her thoroughly. Urine became more abundant, but still was loaded with albumin.

During the forenoon of April 22nd, Dr. F.'s wife became ill, and I had to take the whole responsibility of the case of eclampsia. When I called, at 1:30 P. M., the family reported that she had had four convulsions in the past hour. I at once gave her twenty five *minims* of tinct. veratrum viride hypodermically. There were no more convulsions. The veratrum viride

was repeated at intervals of sufficient length to keep the pulse below 60 per minute for several days. Good recovery.

CASE IV.—I was called in consultation by Dr. P. H. Halbert, Cyruston, Tenn., to see Mrs. Geo. N., æt. 18, primipara, in labor with twins, eight months pregnant. She had been having convulsions at intervals since 3 A. M., at which time Dr. Halbert was called. He began giving chloroform by inhalation and morphia hypodermically. I reached her at 3:30 P. M. She was semi-conscious, but a violent convulsion came on while I was making a vaginal examination. I at once gave 20 *minims* of tinct. verat. viride hypodermically, and then began instrumental delivery—Dr. Halbert giving chloroform. I delivered the first child, and handed it to the mother of the patient, and then applied my forceps and delivered the second child; both were head cases. Both children lived, and the mother made a good recovery under the use of tinct. veratrum viride for a few days.

CASE V.—Mrs. D. S., æt. 35, primipara. I was called two miles into the country by Dr. D. The woman had had several convulsions when I reached her. I found the head on the perineum; gave syringe *full* of tinct. verat. viride and delivered by forceps. Mother and child both made good recoveries.

CASE VI.—Mrs. M. B., primipara, æt. 20. She was delivered by a midwife, and eight hours after delivery she had her first convulsion. I was called from the nearest telephone, and drove rapidly three miles into the country. Soon after I entered the room, she had a second typical convulsion. I gave hypodermically ten drops tinct. veratrum viride, and ordered five drops per *orem* every two hours until I returned, ten hours later. She had had no other convulsion, and made a perfect recovery.

CASE VII.—Mrs. J. B. R., primipara, æt. 22. I was called by Drs. C. and D. When I arrived the patient had had one convulsion that they were aware of; she was œdematous from head to foot; urine was very scanty, and almost solidified on boiling; os was the size of a 25-cent silver piece. While we were in consultation, she had another convulsion, and was the hardest one I ever saw. The nails were absolutely black. The other doctors objected to the use of such a large dose of veratrum viride as I wished to use until she had this one, and then they said "she would die anyway; so go ahead." I gave a hypodermic syringe, and at once began the manual dilatation of the os uteri, and delivered a ten-pound asphyxiated

boy instrumentally as soon as possible. The baby was soon brought around all right, and the mother had no more convulsions at present; but owing to the objections of the other doctors, I had not yet used *veratrum viride* enough to satisfy myself, the pulse still being about 90. Three and a half hours after delivery, she had another convulsion, and three hours later she had still another. I, however, got in several doses now, and the pulse came down to 60, and she had no other convulsions, and made a slow but perfect recovery. In this case, I used *two drachms of tincture of veratrum viride*, from 5 P. M. till midnight, with nothing but the best results; and in the next forty-eight hours I used *two drachms more*.

Of the eight children born in these seven cases, all were born living; the baby of Case III, however, only lived a few hours—its death probably being due to the rapid instrumental delivery through the poorly dilated soft parts.

The other seven all lived past the puerperal month.

From my own experience, and the experience of others, I think I am justified in concluding—

1st. That *veratrum viride* is a perfectly safe remedy; even when used in extra large doses, no danger need be feared so long as the patient is kept in the recumbent posture.

2nd. It is almost a specific when used early in the case for all cases of puerperal eclampsia.

3rd. Those who inveigh against it have either not used it at all or have used it too sparingly.

4th. Use the pulse as a guide, and give the medicine in 10 or 20 drop doses hypodermically every 30 minutes until the pulse is reduced to 60 per minute, and continue the remedy in smaller doses at longer intervals until coma disappears entirely.

and John E. Walsh; *Committee on Microscopy*, Drs. W. B. French, R. M. Myers, and J. E. Walsh.

The *Eighty-Eighth Meeting* of the Medical and Surgical Society of the District of Columbia was held on *December 1st, 1898*. The Society, in accordance with the recommendations of the Executive Council, decided not to increase its membership, nor to retire active members after ten years' service. The Executive Council was directed to formulate some plan for the Collective Investigation of Disease, as seen in the District of Columbia, as suggested in the President's address; to take steps urging the medical colleges of the country to establish a chair of Military Surgery, as suggested by Dr. Kober, and to prepare a form of invitation to the meetings of the Society to be issued to its invited guests.

Dr. Bovée presented the *specimens of a double pyosalpinx and multiple fibroids of the uterus*, to demonstrate the difficulties often met with in abdominal hysterectomy for fibroids. In this case, the tumor reached the umbilicus, and the pelvis was choked up with the mass, causing frequent attacks of intestinal obstruction. As the pus tubes reached the bottom of the cul-de-sac of Douglas, and had rolled down so much of the broad ligament, their enucleation became necessary before hysterectomy could be attempted. Then a fibroid in the left ligament displaced the uterine artery to such an extent that it was removed to prevent possible ligation of the ureter with the artery. After this hysterectomy was easily accomplished.

Dr. Hazen read a paper, reporting "*A Case of Sudden Death in an Apparently Natural Labor*." It was discussed by Drs. Bovée, Sothoron, Stone, Borden, Vincent, and the discussion was closed by Hazen. [This paper will appear in issue for January 27, 1899].

Dr. Wm. B. French read a paper, "*A Case of Typhoid Fever Complicated by Tubercular Infection of one Lung*." It was discussed by Drs. Vincent, Kober, J. D. Morgan, J. Eliot, Sprague, Moran, and closed by French. (See page —).

JOHNSON ELIOT,
Recording Secretary.

Proceedings of Societies, etc.

MEDICAL AND SURGICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

At the annual meeting of the Medical and Surgical Society of the District of Columbia, held November 3, 1898, the following officers were elected for the ensuing year: *President*, Dr. John F. Moran; *Vice President*, Dr. Wm. B. French; *Secretary and Treasurer*, Dr. Llewellyn Eliot; *Recording Secretary*, Dr. Johnson Eliot; *Executive Council*, Drs. George M. Kober, Leigh H. French, Llewellyn Eliot, John W. Shaw,

Ponca Compound Tablets

Affords the practitioner a remedy of potent and beneficial character which produces satisfactory results in cases of nervous, hysterical or anæmic females superinduced by pelvic disorders. It is worth trying, especially where circumstances forbid digital or specular examinations.

Analyses, Selections, etc.

Glycosuria with Anomalous Symptoms.

During the meeting, December 1, 1898, of the Medical Society of City Hospital Alumni, St. Louis, Dr. Elsworth Smith reported (*Med. Review*, January 7, 1899,) that about three months ago, he was called to a lady, aged 50, who had before been under observation. She had always enjoyed good health. When seen previously, it was thought her trouble was of a gouty nature; she had some gouty manifestations in the feet, not in the classic sites, but more in the smaller joints of the tarsus, causing pain and tenderness in the soles of the feet. This condition improved under diet and medication, and she did well for a while, up to the summer. In the fall, he found she had been confined to her bed for about one week with pain in the course of the sciatic nerve. She presented symptoms typical of sciatica. Dr. Willis Hall, who attended her, had this condition fairly well under control. When she got up she exhibited not only disability, but also a good deal of general debility; and, as she got better of the pain, it was thought that there must be some underlying condition to account for these symptoms. A careful examination of the urine revealed quite an amount of sugar, much to his surprise, as he had examined the urine before and had never detected a trace of it.

He was loth to make the diagnosis of diabetes, which is, of course, never justified from the mere presence of sugar in the urine. The amount of sugar ran rather high, nearly always up to 4 or 5 per cent., but the other classic symptoms of diabetes were absolutely absent with the two exceptions of "debility" and emaciation. The patient, who had weighed somewhere in the neighborhood of 200 pounds, in the course of about a year had dropped to 170 pounds. Patient thought this loss in weight had occurred mainly in the last four months. With the exception of this debility and the emaciation, there were no other symptoms present. This patient never observed, nor has she since, any increase in thirst nor any increase in appetite, nor was there any polyuria. The twenty-four hours' amount of urine was from 1,500 to 2,000 cc.

In spite of all treatment and medication this glycosuria persists. Emaciation is not quite so rapid now. The amount of sugar is sometimes controlled by diet and goes down to 2 per cent. at times, but the sugar is never absent entirely from the urine, and often is pres-

ent in a large amount. The case was interesting on account of the absence of so many of the classic symptoms, and as he had never encountered a case of this disease without polyuria, although he had observed the absence of both increased thirst or increased appetite. In fact, this patient eats less than formerly, and drinks less water than she did.

This case goes to show how the diagnosis sometimes has to be made without the characteristic symptom grouping. He based his diagnosis on the glycosuria persisting in spite of all dieting and treatment, and upon the progressive loss of flesh and strength.

Dr. John C. Falk recalled the case of a lady 68 years of age, who came to him about two years ago, complaining of gradually developing weakness, without any other definite symptoms. Her appetite was good, she had normal thirst, and there was nothing pointing to polyuria. The specific gravity of her urine always ran up to 1,035 or 1,040. Sugar was present at that time. She was put on a limited starch diet, without attempting to eliminate all carbohydrate food. She did fairly well for a time; was not seen for six months, when sugar was again found. In the meantime, she had dropped off from her prescribed diet and was eating her usual food. She drank less, or at least not more than she had previously. She never would admit that she passed any more urine than was normal—two to three pints in twenty-four hours. She has been seen several times since. About two months ago, her condition was about as one would expect for a woman of her age. She has lost fifteen pounds in weight in the last two years. One year ago, she had an attack of delirium which had a psychical cause—i. e., she was disturbed about some domestic affair. He thought that possibly the diabetes was causing cerebral symptoms at that time, and a very grave prognosis was made to the family. There had been no medicinal treatment, except a tonic occasionally, as a placebo.

Dr. Horace W. Soper said that he had had a case under observation for the past two years. While the symptoms are now all present, they were not so when the case first came under observation. A provisional diagnosis of typhoid fever was first made. The patient had been ill for several days with malaise, delirium, continuous high fever, and there was absence of any definite symptoms excepting a very dry tongue and a continuous high fever. There was some distension of the abdomen and some tenderness in the right iliac fossa. The urine was not examined until later, when much pus

was found. From the microscopical examination, he regarded the case as one of cystitis. Urinalysis did not speak for any inflammatory renal trouble. When a test was made for sugar, it was found present in large quantity. She afterwards recovered from the acute attack and gave a clear history of diabetes mellitus and developed polyuria and polydipsia. He explained the presence of the continuous high fever by the presence of the acute cystitis, and believed that the cystitis was caused by the glycosuria. There was also eczema of the vulva, which was not observed until later in the case. After trying several remedies, the patient was put on opium and did very well. The polyuria disappeared and she got fat, but as soon as the opium was stopped, the polyuria began and she lost in weight. The amount of sugar has decreased since she has been taking pulverized opium, of which she is given six grains daily. He had observed her two weeks, during which time he thought she had typhoid fever. Examination of the blood did not show the typhoid reaction. It was several weeks before she showed the polyuria. She gave a previous history of polyuria and polydipsia antedating this attack three years.

Dr. Smith remarked that that case would hardly be called a parallel one. The classic symptoms were there, but they were masked very much by the acute attack. He then asked Dr. Soper if he supposed the cystitis was due to the diabetes and the high fever was due to the cystitis, to which Dr. Soper replied in the affirmative.

Dr. Falk said that he had seen his patient in the beginning three or four times in the course of two or three months, and that he had seen her three or four times since then.

Dr. Smith thought the latter case was one of true diabetes. One of the requisites in the establishment of the diagnosis of true diabetes is the continuous persistence of glycosuria. There might be a period of accidental glycosuria, which would not mean a true diabetes. The case mentioned by the speaker he believed was a rare one. The absence of all these symptoms was rather rare. It is also rare for it to pursue such an acute course in one of that age. When true diabetes develops in a person past middle life, the disease is apt to be chronic, while, if it develops in a younger person than that, the course is more apt to be acute, and the termination more rapidly fatal. He treated this patient with opium, but found that codeine was more efficacious, but even with opium or codeine the amount of sugar could not be brought down below 2 per cent.

Dr. Charles J. Orr wished to make a few remarks in regard to the treatment. Seven or eight years ago he had the disease in his own family, his mother being the sufferer, and the outcome was fatal. He found that the disease was invariably bewildering in many ways as regards its course and the efficiency of the treatments championed by the various practitioners. Subsequently, a man for whom he had great respect as regards his therapeutic ability, suggested *salol*, and it was tried for a time. In this case and in another since that time, it seemed to affect the course of the disease most favorably. Sixty grains were given daily, and had a decided effect for three months—more marked than opium. *Salol* then lost its effect.

Dr. Falk spoke of another case, which was interesting. A farmer, aged 65 years, when first seen seven years ago, had a mastoid abscess which opened spontaneously and was discharging pus from a sinus. A free incision was made over the mastoid and a little of the bone was chiseled out, without chloroform. It was then daily syringed out with bichloride of mercury solution. In the course of the first few days of treatment, he called attention to some trouble with his "urinary organs," his complaint being that the penis was sore. In the search for the cause of this, it was found that he had glycosuria. His urine was heavily loaded with sugar, it being present in the amount of 4 per cent. The patient was then warned to be cautious about his diet. He was under treatment almost daily for about two months. During these two months it was found, from weekly examinations of the urine, that there was a progressive decrease in the amount of sugar in the urine and a corresponding decrease in the polyuria and polydipsia, which were marked in this case. All the symptoms subsided, and when he was discharged with the mastoid sinus practically healed, there was only a trace of sugar in the urine. He went to his home in a distant part of the State and was heard of at intervals. He died six months ago with symptoms that point to diabetic coma. The interest in this case lies in the question: Did the diabetes disappear entirely during that interval, or did it continue in mild degree until the end came? At that time it was the speaker's opinion that the suppurating focus was the exciting cause of the glycosuria.

Dr. Smith said that there were no evidences of cataract in the case mentioned by him. However, the eyes had not been carefully examined, but he was satisfied that there were no patent evidences of cataract.

Prevention of Mastitis.

Dr. W. F. B. Wakefield, Oakland, Cal., discusses this question in a paper read before the Alameda County Medical Association (*Occidental Med. Times*, Nov., 1898).

We are told that about 6 per cent. of nursing women are afflicted with mastitis. This is an outrage upon modern obstetrical practice.

One of the most distinguished among British obstetricians, G. Ernest Herman, M. B., F. R. C. P., says: "Sometimes, especially if the nipples are sore, or the child feeble, more milk is produced than the child draws out; the breasts become very full, swollen, knotted, hard, and tender; and this condition may make the patient feverish, and if not relieved may go on to abscess. If the breasts are so full as to be uncomfortable, they should be emptied by a breast-pump or a soda-water bottle. If the child was still-born, or has died, or the mother is not going to suckle her child, this may be repeated as often as necessary, and will soon cease to be required; for if the breasts are deprived of the stimulus of a sucking baby they soon leave off producing milk. It would often be very desirable, in the case of babies too feeble to suck, or nipples too badly shaped for the baby to grasp them, to draw the milk from the breast with a pump and give it to the child with a spoon, but, as a rule, this cannot be done, for the breast soon ceases to produce milk when the child is not applied to it. You need not, therefore, prescribe any medicines to drive away the milk. See that the breasts are made comfortable, and the milk will go away if the mother does not suckle."

Again, one of our late American works on obstetrics, Grandin and Jarman, says: "As soon as induration is detected in the gland, nursing should be interdicted, although engorgement of the mamma must be prevented by emptying the breast at regular intervals by the hand. An ice-bag applied over the site of induration may abort it before pus formation."

Such advice in regard to the treatment of "painful fulness of the breasts" is woefully deficient.

The causative factors in the production of mastitis—(1) Bacterial infection through the medium of sore nipples. (2) What Dr. Garrigues, of New York, calls "milk stasis." We pay too little attention to this second etiological factor—"milk stasis." The production of milk is in excess of its consumption, and the breast becomes engorged; and this mechanical engorgement, if not properly handled, soon leads to congestion and inflammation.

Prevention of Sore Nipples.—Text-books often recommend that our patient, especially if she be a primipara, put the nipples through a "hardening process," by the use of astringent or spirit lotions, for two or three months prior of confinement. He mentions this simply to condemn it in the most emphatic terms. Nothing is more likely to produce cracked and "sore" nipples than resort to this "hardening" process. Our aim should be, not to harden and stiffen the nipples, but exactly the reverse—to soften and render them more pliable. For five years, he has used, in the treatment of sore or cracked nipples, this formula, recommended by Hirst—

Ry.—Castor oil.

Subnitrate of bismuth—āā. part equal.

M.—S: Apply freely to the sore nipples.

It has the advantage of being non-toxic, and it is not necessary to wash it off each time the child nurses.

Treatment of Engorged or Congested Breasts with "Caking."—The whole treatment consists in firm, evenly-directed pressure. Older surgeons, recognizing the necessity for pressure, tried bandaging or strapping the breasts. Neither of these plans gave satisfaction; the bandage slips out of place, and the strapping is very uncomfortable. Garrigues determined to have firm, even pressure applied to the breasts; and Miss Murphy, the Lady Superintendent, invented a breast-binder. It is not necessary to always apply these binders, but one should be in readiness for application whenever the breasts show the slightest sign of hardness, tenderness, or "caking."

Miss Snively, of the Toronto General Hospital, invented a modification of the "Miss Murphy Binder," which can be cut at the bedside, and precludes the necessity of keeping a made-up binder. It has also the advantage of exactly fitting the patient.

To make the bandage, take the bust measurement level with the nipples, cut your muslin one inch longer than this measurement and sixteen inches wide. Fold it twice, and mark off the centre; then measure down four inches on the free edges and make a curved cut to centre; then measure down nine inches on the other side and cut to top, leaving a strip two inches wide. These cuts being made, the binder is ready for application.

In applying the binder, strip the patient to the waist and arrange the binder so that the centre of the scallop in the back comes opposite the centre of the back of the neck, bring it around to the front and pin from below upwards, having the patient assist in drawing the

breast, as far as possible, upward and inward. In order to have the same pressure on the inside as we have on the outside, a large wad of cotton batting should placed between the breasts. When the front has been pinned firmly from below upward, pin the shoulder-straps in position to keep the binder from slipping down.

The binder has one drawback, which should ever be kept in view. It diminishes the secretion of milk, and therefore should only be used when the breasts show signs of tenderness and caking. It should only be applied tight enough to relieve the pain: and should be removed as soon as the breasts become soft, and tenderness disappears.

Physiological Value of the Ovary.

Dr. C. Martin, in the *British Medical Journal*, gives his observations upon removal of both ovaries:

The woman becomes absolutely sterile.

Menstruation ceases in about 95 per cent. of the cases.

The uterus, and, to a less extent, the vagina and vulva, undergo a process of atrophy.

The nervous symptoms of the menopause appear abruptly and violently, namely, heats and flashes, perspirations, palpitations, giddiness, depression of spirits, and a general unstable condition of the nervous system.

In a considerable majority of cases, there is a diminution or total abolition of the sexual instincts.

The patient has a tendency to obesity. If one ovary, or even a portion of one ovary, be left, none of these symptoms appear. There is no physiological difference between a woman with two healthy ovaries and a woman with but a healthy portion of one ovary.

In inflammatory disease of the appendage of one side, the healthy appendage should be permitted to remain. Where both appendages are diseased, and should be removed, a total vaginal hysterectomy should be done. Fibroma, dermoids, cystoma, may occasionally be removed by cutting a wedge out of the ovary and sewing the remaining portions together with silk or catgut. Sclerosis of the ovaries giving rise to hysteria, anæmia, dysmenorrhœa, menorrhagia, neuralgia, etc., are often treated by the total removal of both ovaries, with the result that menstruation ceases but the symptoms continue. As an alternative, the author advises ignipuncture.

It can be done by vaginal section. The ovaries are drawn down into the vagina by either an anterior or posterior colpotomy, and from

one to a dozen punctures are made with a thermo-cautery into any cysts or thickened portions of the capsule that may exist. Of fourteen cases operated upon by the author, seven made complete recoveries and five failed entirely.

Parovarian and broad ligament cysts can often be removed and the ovaries left in situ.

In hysterectomy, if the ovaries or a portion of one ovary is left in situ, the artificial menopause does not occur, as it will certainly do if the ovaries are removed together with the uterus.

The author claims that the nervous combustion is greater where the uterus is not removed along with the appendages than where the hysterectomy is complete. In some mysterious fashion, the uterus is a source of disturbance to the nervous system. The author, therefore, concludes that where it is necessary to remove the uterus, and not the appendages, it is best to leave the appendages; but where it is necessary to remove both appendages, it is best to remove the uterus also.—*St. Louis Med. Gaz.*, Jan., 1899.

Utropine in the Treatment of Cystitis.

Utropine, or hexa-methylen-tetramin, lately introduced to the notice of the profession by Nicolaier, of Göttingen, is receiving a vast amount of attention in the treatment of urinary conditions—especially of the bladder. In *Journal of Cutaneous and Genito-Urinary Diseases*, Nov., 1898, Dr. George E. Brewer spoke most highly of its use in pyuria. In *Medical News*, Nov. 12, Dr. R. W. Wilcox speaks of it as "a new urinary disinfectant" of high value. In a paper by Dr. M. W. Richardson, read before the Boston Society of Medical Sciences, he emphasizes (*Phila. Med. Jour.*, Oct. 29,) the value of utropine as a urinary antiseptic, with special reference to its use in typhoid fever. He concluded that for the removal of typhoid bacilli from urine, utropin is much superior to salol. In ten-grain doses three times daily, it removes the bacilli permanently. In a personal communication, Dr. Stuart McGuire states that he is much pleased with utropin—that "it has acted marvelously in several cases." In *The Therapist*, Oct. 15, 1898, T. Gordon Kelly, M. A., M. D., has a full article on the subject, from which we make following extracts to illustrate its uses:

"Normal urine is perfectly aseptic, but as Prof. Eliot, of Chicago, says, 'the large amount of organic matter which the urine contains renders it an excellent medium for development, should infection take place, in which

event the bladder becomes converted into a veritable incubator for the propagation of bacteria."

"In the treatment of cystitis, therefore, the first and main indication must be to render the urine antiseptic, which object accomplished, we are a long way on the road to our goal—the cure of the disease.

"The principal drugs used for this purpose, I may say, are salol, ammonium benzoate, boric acid, guaiacol, resorcin, benzo-naphthol, sodium salicylate, creosote, etc. These drugs I have all found useful in rendering the urine antiseptic, and they have been extensively employed in the treatment of cystitis, but none of them in my experience could be called a perfectly reliable and satisfactory urinary antiseptic. One drug only in my hands answered this description, and this was utropine.

"Utropine is a non-toxic and non irritating derivative of formic aldehyde. It is formed by the action of four molecules of ammonia on six molecules of formaldehyde, and was first introduced to the profession by Prof. Nicolaier in 1895, who asserted that it possessed the power of dissolving uric acid concretions, and also, that taken per ora it prevented the development of bacteria in the urine. I have not had an opportunity of thoroughly testing its power of dissolving calculi, so cannot personally say whether it possesses this property; but in cases of cystitis and of phosphaturia its action has, in my hands, been almost specific, and I have been satisfied beyond all expectations with the result. Utropine appears in the urine as early as fifteen minutes after its administration, and its presence can be recognised twelve hours later after a dose of $7\frac{1}{2}$ grains. It is soluble in 1.2 parts of water at 68 deg. Fah., and the reaction of its solution is faintly alkaline.

"In some cases utropine is said to cause a slightly burning sensation in the bladder if large doses are taken, but no patient to whom I gave the drug ever complained of this to me."

He then gives a few clinical illustrations of the action of this drug, in one of which it was most brilliantly successful after every other drug of this nature had failed, and one which many eminent men had regarded as beyond medical treatment.

"In prescribing utropine, my experience teaches that—firstly, the re-action of the urine should be discovered, and if very acid a little citrate or acetate of potash, or if very alkaline, a little dilute mineral acid should be given in addition to the drug.

"In conclusion, I may say that, in my opinion, we have in utropine the most thoroughly

reliable urinary antiseptic and astringent, and the one nearest approaching to specific for cystitis and allied affections."

Decadence of Negro Population in United States.

Mr. Henry Gannett, of the U. S. Geological Survey, who had charge of the collection of negro statistics for the last two censuses, published an interesting paper in the *Brooklyn Eagle*, Nov. 9, 1898. He says that about four years ago, when he last estimated the U. S. race population, there were 61,000,000 whites, and 8,000,000 negroes. With exception of some localities, where negroes have increased more rapidly than the whites during a limited period of time, negroes have failed to hold their own in numerical progress. The first census statistics of 1790, showed 3,172,000 whites and 1,757,500 negroes in this country, or 80.73 per cent. whites, and 19.27 per cent. negroes of total population. Although the colored race has steadily increased in numbers since that time, it has not kept pace with the percentage of progress made by the whites. The census of 1850 gave the whites as 19,553,000, or 84.3 per cent. of the total population, and the negroes at 3,638,000, or 15.69 per cent.—a decline in percentage of about four for the blacks and a corresponding increase of the whites. The last census gave the figures as follows: Whites, 54,983,000, or 87.8 per cent.; negroes, 7,470,000, or 11.93 per cent. of the total population. The whites have increased in a century from a little over 3,000,000 to nearly 55,000,000, and the negroes from three-fourths of a million to about 7,500,000. The whites were in 1890 nearly eighteen times as numerous as in 1790, the negroes nearly ten times as numerous. In 1790 the latter race formed 19.27, or very nearly one-fifth of the whole population; at the end of this century they constituted only 11.93 per cent., or less than one-eighth of the population. The following table shows the rate of increase of the races during each of the ten-year periods:

Decade.	Percentage of increase.	
	White.	Negro.
1790 to 1800	35.76	32.33
1800 to 1810	36.12	37.50
1810 to 1820	34.12	28.59
1820 to 1830	34.03	31.44
1830 to 1840	34.70	23.40
1840 to 1850	37.74	26.63
1850 to 1860	37.69	22.07
1860 to 1870	24.76	9.86
1870 to 1880	29.22	34.85
1880 to 1890	26.68	13.51

With exception of the two ten-year periods, 1800 to 1810 and 1870 to 1880, negroes have increased at a less rapid rate than the whites. Thus, a comparison of the numerical progress of the negroes with that of the whites in the country as a whole shows that the former have not held their own, but have constantly fallen

behind; they have not increased as rapidly as the whites.

It may be said that this is due to the enormous immigration, composed entirely of whites, which certain parts of the country have received. White immigration on a considerable scale began about 1847. Prior to that time it was not of importance. We may then divide the century into two equal half centuries. Between 1790 and 1840 the whites increased 4.5 times, the negroes but 3.8 times. The latter element has diminished in relative importance in this half century from about one-fifth of the population to one-sixth. In the succeeding fifty years the whites had increased 3.9 times, and the colored 2.6 times only. We have here the testimony of the century to show that the negroes, while in no danger of extinction, while increasing at a rate probably more rapid than in any other part of the earth, yet are increasing less rapidly than the white people of the country. It is very clear that as the years pass on the latter will become more and more numerically the dominant race of America."

The mortality figures for two races may have something to do with this disparity in the rates of increase. There is no question but that the rate of mortality among the negro population is considerably greater than among the whites. It is not easy, however, to obtain accurate measurement of the relative death rates, owing to the fact that the census statistics on this subject are incomplete. It is only in a few large Southern cities which maintain a registration of deaths that reliable figures are to be had. The death rate per 1,000 in the following cities is given: St. Louis, whites 17, negroes 35; Baltimore, whites 22, negroes 36; New Orleans, whites 22, negroes 37; Washington, whites 19, negroes 38; Louisville, whites 18, negroes 32. From these figures it appears that in the large cities the annual death rate of the negroes is very nearly if not quite double that of the native whites. It is probable that in the rural districts the disproportion among the death rates is not as great, since it is found that a rural environment is better suited to the negroes than the surroundings of a large city.

Mr. Gannett has also looked up the distribution of the negro element with some interesting results. While they are in every State and Territory in the country, the vast body of them are found in the Southern States lying south of Mason and Dixon's line. In three States, Louisiana, Mississippi and South Carolina, more than half the people are negroes. Indeed, in South Carolina three out of every five of the inhabitants are of this race. In all the States along the Atlantic and Gulf coast, from Virginia to Louisiana, together with Arkansas, more than one-fourth of the people are negroes, while throughout the entire North and West, the proportion of negroes is less than 5 per cent., and in many States it is less than 1 per cent. of the total pop-

ulation. It is a curious fact that more than 17 per cent. of the negroes live in the low, swampy regions of the Atlantic coast, and in the alluvial region in the Mississippi Valley. This proportion contrasts sharply with that of the total population, of which only 4 per cent. are found in those regions. Upon the Atlantic plain the proportion of negroes is also much greater than that of the total population, and, generally speaking, it may be said that they seek low, moist localities and avoid mountainous country. This peculiarity of their distribution is brought out more forcibly in their distribution with reference to elevation above sea level. At an altitude of less than 100 feet above the sea there are found nearly one fourth of the negroes, while only about one sixth of the total population is in these regions. Below 500 feet are found seven-tenths, while nearly two fifths of the total population are found in this altitude. Again, below 1,000 feet there are found 94.5 per cent. of all the negroes of the country, while of the total population there are found only 77 per cent. below that altitude. It is, of course, well known that the negroes prefer higher temperatures than the white race. While the total population lives on an average under a mean annual temperature of 53 degrees, that under which the negro live is on an average 61 degrees, or 8 degrees higher. The great body of negroes live where the mean annual temperature ranges from 55 degrees to 70 degrees, very nearly 85 per cent. of this element being found within the region thus defined.—*Sanitarian, January, 1899.*

Symptoms in Sixty-One Cases of Locomotor Ataxia.

Dr. W. H. Riley, Superintendent of Colorado Sanitarium, Boulder, Col., tabulates (*Four. Nerv. and Ment. Dis.*, Sept., 1898,) by symptoms sixty-one cases of locomotor ataxia. In twelve, syphilis was denied, or its occurrence not proven; in the other forty-nine cases, it had actually occurred, or was strongly suspected.

After giving the usual symptoms found in cases of tabes, Dr. Riley gives as *symptoms apt to be overlooked*, an exaggeration of the skin reflexes, partial deafness and accelerated pulse; in addition to these, he finds in many cases insomnia, loss of weight, digestive disturbance, and frequently a relaxed condition of the abdominal muscles, allowing the stomach and intestines, and sometimes other organs, to become prolapsed and displaced. He reports also presence of knee jerk in six cases. Exaggeration of the skin reflexes he finds a very early symptom, in one case occurring two years before loss of knee jerk and inco-ordination of muscles used in locomotion. Deafness frequently occurs in the tabetic, forming part of the symptom complex, and due to a lesion of the auditory nerve in some part of its course. Accelerated pulse occurred in twenty-five out of his sixty-one cases, and in these the

pulse rate was eighty-five or above per minute. This he considers due to an irritation of the pneumogastric nerve. Dilatation, instead of contraction of the pupil, he observed in eight cases, with Argyll-Robertson characteristics.

Riley states as *causes* of tabes, neuropathic tendencies, syphilis, sexual excesses, exposure to wet and cold, overexertion and mechanical injuries. He accepts Edinger's theory that excessive function is a common cause of tabes, as well as of other diseases of the central nervous system, but believes that there must be some toxin in the blood, due to infection or chemical poison, following upon the degeneration and lessened vitality caused by mechanical injury, exposure, overwork or sexual excess.

The writer outlines briefly his *treatment*, which advances along two lines: "(1) To eliminate poisons that are in all probability being constantly formed; (2) to improve the general health and nutrition of the patient, special treatment being directed to the seat of the lesion." To secure the first requisite, Riley has his patients drink from five to seven pints of water, preferably hot, daily, in small quantities and at short intervals between meals. Warm baths, prohibition of all excess, abandonment of the use of tobacco and alcohol, and an antiseptic diet are also demanded. Hydrotherapy, massage, electricity and mechanical movements, including suspension, are employed to achieve the second requisite in treatment.—*Med. Rev. of Reviews*, Dec., 1898.

Subcutaneous Arterial Ligation.

Dr. Thomas Jay Pugh, Hearne, Texas, says (*Med. Times*, January, 1899,) that this is a new mode of tying arteries, very simple, and to his mind it is less objectionable than the old way of cutting down through the skin and tissue to the vessel.

Objections might be raised to this procedure—yet, when we remember that it is *results* that we want, and when all reports on this form of operation give perfect results, then of just reason this operation takes precedence as the correct one. Of course when amputations must be performed and abdominal sections made, the vessels are brought to view by the incisions necessary in these operations. But in minor wounds of the extremities, of the neck and head, subcutaneous arterial ligation can be resorted to; and even in amputations of the femur, at any one of its subdivisions, he would not hesitate to throw a ligature subcutaneously around the femoral artery as a temporary hæmostatic. The large, well curved needle, armed with a stable, aseptic thread, could, after perfect anesthesia, be passed down through the skin and underlying tissue, taking in its course muscle, artery, vein, and nerve. He then pro-

ceeds to relate his experience in this digression from the old into the new way.

First Case, 1884.—A man, 40 years old, caught in the moving machinery of the gin on the Cavitt plantation near Mumford, Texas. All the metacarpal bones of the hand were broken. The radial and ulnar bones were broken in the middle and lower third, and the bones were split up and protruded through the bruised and lacerated flesh. The os-humerus was also broken above the elbow. Amputation being called for, he did the operation at the upper third of the forearm, and put the broken os-humerus in pasteboard splints and bandages. After tying the principal arteries, the ulnar and radial, he found another bleeding vessel which he could not find and tie, and in his dilemma he conceived the idea of *subcutaneous arterial ligation*. Acting upon this idea, he simply passed a curved needle, with ligature, into and around the mass and tied the same. The bleeding was immediately controlled, and the man, without much pain, recovered entirely.

This success being all that could be desired, he was prompted to use it in another injury of the arteries calling for ligation.

June, 1892. Taylor W., a white man, some six days previous, had cut a long deep gash in his foot, severing the dorsalis pedis artery. Local astringents and compression had been used for six days and nights with no good results. In consultation, after having chloroformed the patient, he passed a long curved needle with strong silk around the artery, and out on the opposite side from entrance. This, of course, included the skin, muscles, nerves and blood vessels. The hemorrhage ceased at once. The stitch or ligature was withdrawn on the fourth day, and the patient made rapid recovery.

A third case, Patsey M., injured in an railroad wreck near Hearne in 1893. The radial artery was cut some two inches above the wrist. The hemorrhage was profuse. He ligated the artery both below and above the site of injury. Subcutaneous arterial ligation was used in this as in the other cases.

Dr. S. S. Thorn, of Toledo, Ohio, Ex-President of the American Railway Surgeons' Association, has written a special letter of commendation of the operation. He also gives Dr. Pugh priority in the operation, and in reporting the same.

We have been taught not to include a nerve in our ligature, and if he could see the nerve and artery, he would not tie the two together. But he holds that in his operation—subcuta-

neous arterial ligation—no harm comes from including the nerve with the vein, artery, and muscle. All of this tissue, sufficiently tight around the bleeding vessel to insure its hæmostatic power, surely guards against any pain being given out from the nerve; the pain is at least so slight as to be controlled with small doses of morphine every six or eight hours.

Several physicians have used this mode of tying arteries, and in every case with perfect satisfaction.

In the osseous or degenerate artery this mode of ligation is especially called for.

The army surgeon should adopt this operation because of its success and rapid application.

Unguentum Betulæ Comp.—The Ethical Method.

In these days, when the world is on the double-quick for the almighty dollar, and careless of the means so that the result is accomplished, it becomes a pleasure to call attention to other methods, especially those pursued by the Kahn-Miller Drug Co., of Baltimore, Md., in the introduction, to the profession, of their valued prescription for skin diseases—*Unguentum Betulæ Comp.* This remedy, the formula of which is given in their public notices to the profession, enjoys the flattering distinction of being more nearly a specific for skin diseases than anything hitherto offered to physicians. As a result, it is becoming more widely known every day; and the numerous endorsements constantly going to the manufacturers are a cumulative argument in favor of the action and energy of the remedy. Then, too, the remedy is ethically introduced, and by methods so satisfactory to the profession and the company, that all temptation to lay practice and irresponsible prescribing is done away with. Read the company's notice embodying formula in this issue, and send for sample of the ointment.

Remedy for Rigid Perineum.

In rigid perineum, Dr. Southworth says that he who tries the following will never be without it. He considers it indispensable and infallible:

R.—Chloroform 5 j
Ether sulphuricum 3 j
Cologne spts 3 j

Misc. Sig. Apply locally.

He further says: "It acts quickly and well. I have had large heads pass perineums which seemed impossible without extensive rupture, without the beginning of a tear even, when this preparation was used.—*Canada Medical Record*, Nov., 1898.

Practical Scraps.

It seems that Dr. M. G. Price, Mosheim, Tenn., has kept a scrap book in which he has placed a number of prescriptions, etc., which he has tried and found valuable. *The Louisville Journal of Surgery and Medicine*, January, 1899, gives the following from that scrap book:

For abscesses, take boric acid and acetanilid, equal parts, and glycerine to make a thick paste; spread on a soft cloth and apply.

Hyoscyanin is a grand drug in convulsive and spasmodic conditions, and we want to know how to administer it to children. Take this little schedule:

Age.	Granules 1-250 gr.	Aqua.
1-3 months.	1	ʒ24;
3-6 "	2	ʒ24;
6-9 "	3	ʒ24;
9-12 "	4	ʒ24;
24 "	6	ʒ24;
48 "	10	ʒ24.

Twelve years, one granule every fifteen to thirty minutes until dilatation of pupil.

Bronchitis (acute), take 2½ grains of acetanilid, 2½ grains of salol every four hours. By this I have frequently aborted this trouble in my own case.

For gastric catarrh sodium salicylate is invaluable.

We sometimes wish to abort an oncoming chill in a patient; fifteen or twenty drops of chloroform may succeed—if not, we may try atropine or glonoin. [Hypodermic of hydrochlorate of pilocarpine, one-twelfth grain for an adult, is better than either of the above—each of which we have tried.—*Editor Va. Med. Semi Monthly*].

A cold in the chest with tightness and dry hacking cough may be greatly remedied by giving apomorphin and potassium bichromate.

A cold is sometimes aborted by

Tr. gelsenium.....gtt. x.

Dovergr. v.

M. S. Every two hours.

Who of us has not been besieged by weary mothers for something for her crying infant that is suffering with *three-months colic*. Hyoscyanin is the drug.

I want to add my testimony to the efficacy of iodide of lime (the brown article) in croup. It will cure it.

Minute doses of creosote in glycerin is the equivalent of antitoxin.

Nitro-glycerin is a giant in dysmenorrhœa, ⅓ grain every fifteen to thirty minutes until physiological effect.

Drop doses of tincture cantharides will be found effectual in irritable bladder of women with

frequent desire to micturate. Gelsemium is also said to be good.

Don't fail to use turpentine in hemorrhage. Must be given in large doses—one to two drachms without dilution in emergencies.

In two cases of pneumonia we have met with hicough that lasted for four or five days. We found

R. Strychnia.....gr. $\frac{1}{40}$;
Camphor mon.gr. $\frac{1}{2}$;
Hyoscyamin.....gr. $\frac{1}{10}$.

Glycerin and chloroform and hot infusion of capsicum were tried as well as a hypodermic of morphia. The first prescription as well as the morphia succeeded.

Present Status of Haffkine's Plague Prophylactic Inoculations.

According to *The Indian Lancet*, Calcutta, December 1, 1898, the Bombay Medical Union recently held three meetings to consider the present plague prophylactic inoculations of Professor W. M. Haffkine under the presidency of the Hon. Dr. Bhalechundra Krishna; about fifty local medical men took part in the discussion.

The following propositions were put before the meeting and adopted by all except four votes:

Propositions.—Proposed by the Hon. Dr. Bhalechundra Krishna and seconded by Dr. B. S. Shroff—

"1. That this meeting is of opinion that, considering the data now available and the satisfactory results of the observations collected regarding the protective effect of Prof. Haffkine's plague prophylactic, the time has now arrived for the professor to make a definite pronouncement on the subject and to invite the public to resort freely to the protective treatment, a very reliable safeguard against plague.

"2. The immunity derived from inoculation when done with a full dose, appears to last for at least six months, but there is the possibility of its lasting much longer.

"3. From the observations collected lately, it appears that a second inoculation done ten days or so after the first, further reduces the incidence of plague in those who resort to inoculation, and a third inoculation, if such be practicable, would increase the immunity still further. The public are therefore invited to resort to at least two inoculations, and even to a third, if practicable. The duration of protection is also likely to be enhanced by such a repetition.

"4. This meeting of medical men, who have

had a wide experience of inoculation on persons of all positions, ages and conditions, declares emphatically that rumors of inoculation originating different diseases, such as leprosy, syphilis, etc., are devoid of any foundation; that, considering the nature of the prophylactic, which does not contain any living germs, such an eventuality is absolutely impossible; and that there are no facts to show that inoculation aggravates any existing ailments despite of rare and inoculated instances which may at first suggest such an idea."

Cocaine to Relax Rigid Os Uteri.

Dr. J. Farrar reported some cases to the last session of the British Medical Association to call attention to a rapid method of overcoming a rigid os uteri in labor. It consists in the application of a ten per cent. solution of the hydrochlorate of cocaine on a piece of rag—smearing the os round and round—first on the outside, and then within—finally leaving the rag within the margin of the os. At the end of about four minutes, the os not only loses its rigidity, but is wide open, and as flexible and distensible as a rubber bag. The Doctor had had opportunity to test the use of cocaine in only five cases of rigid os in labor before publishing his report; but in each of the five cases the ten per cent. solution of cocaine acted with equal success. This is "a good obstetric wrinkle."

Tincture of Chloride of Iron

Is not fit for use until at least six months old, and much better still if one year old—so say E. R. Squibb & Sons, *Semi-Annual Price List*, revised January, 1899. An important part of its therapeutic value depends upon ethers that are slowly generated; and the sensible properties of an old, as compared with a recently made tincture are very markedly evident upon examination. The older formula for its manufacture of the U. S. P., 1870, is therefore adhered to by this firm, and the tincture is allowed to stand one year before using.

Filipowicz's Palmo-Plantar Sign in Typhoid Fever.

(Quentin in *Arch. Génér. de Méd.*) Best seen on the hand; the palmar surface appears dry, furrowed and lemon colored. Opposite the heads of the metacarpal bones the color deepens into brown. The epidermis is thickest where the color is most intense. The sign appears with the rose colored spots, and, like them, may be attributed to nutritive disturbances.—*Indian Lancet*, Dec. 1, 1898.

Another Christian-Science Manslaughter.

The death from diphtheria of a sixteen-year old girl who had had only Christian-Science treatment, or rather lack of treatment, is announced this week at New Britain, Conn. An English coroner's jury under similar circumstances has brought in a verdict of manslaughter. The crime is just as great on this side of the water, and no false motives of consideration for the foolish parents should prevent the bringing of the guilty parties not only to justice, but before the bar of public opinion. No stigma is too black to attach to those who allow superstition—i. e., the impression of their own foolish faith—to carry them into an invasion of the sacred rights of human life. Diphtheria, especially, has become in these later years one of the most tractable of human ailments, and for it, more almost than for any other disease, can the physician "work wonders" by the methods that modern scientific medicine has put into his hands. The crime in the case is made all the more black by this consideration. Let us hope that a well-deserved punishment will be meted out in this instance, as a warning to the thousands of others who have allowed themselves to be senselessly carried away by the foolish nonsense of what has been well called Unchristian Nescience.—*Med. News*, Dec. 10.

Complete Amputation of Penis—Modification of Transplantation of Urethral Outlet.

Dr. H. M. Hunter, Union Springs, Ala., reports a case (*Internat. Jour. Surg.*, January, 1899), to note a possibility that the urethra, after complete amputation of the penis, can be so transplanted as to allow the patient to eject his urine without assuming the squatting posture, and without the discomfort of dribbling. Furthermore, he has not heard of any other case in which the patient has retained the power to eject his urine in the standing posture after complete amputation of the penis.

W. C., aged 22 years, had a large, well-marked cancer of several months' duration, involving the glans, prepuce, corpora cavernosa and spongiosum. The following method was adopted for complete amputation of the organ: An elastic ligature was thrown around the penis close to the pubes, and the organ severed by a transverse cut. Incision was next made from the under surface of the corpus spongiosum in front, through the scrotal raphe into the perineum. The spongiosum was separated from the cavernosa, and the latter dissected back to and removed from the pubic bones. The urethra was split through its roof, and its edges

sown to the cut edges of the scrotal tissue in the posterior part of the scrotum, instead of being left in the perineum, as is usually done. The wound was closed, and primary union resulted—a catheter being retained in the bladder for several days. The patient is entirely recovered, and can, by holding up his scrotum, eject a full sized stream of urine at least five feet from him, while in the standing posture, with no dribbling.

Nosophine in Chancroid and Ulcerative Syphilitic Lesions.

Dr. A. H. Ohman-Dumbsnit, of St. Louis, gives, in a paper read before the Missouri State Medical Association (St. Louis *Med. and Surg. Jour.*, June, 1898,) several cases of chancroid and ulcerative syphilitic diseases treated in the St. Louis Hospital with nosophine with the most speedy and permanent cures. The ulcer is brushed with lukewarm water and dried with absorbent cotton; after this hydrozone is applied to destroy any pus. Nosophine is then applied over the lesion, and repeated twice daily till the ulcer is cured. Nosophine is obtained by the action of iodine on solution of phenolphthaleine, and is odorless and unirritating. The average duration of the treatment of chancroid was five days and of syphilitic ulcerations seven days.

To Anæsthetize the Membrana Tympani.

- | | | |
|----|----------------------|-------------------|
| B. | Ac. carbolic pur. | } aa .....gr. xv. |
| | Menthol, | |
| | Cocain hydrochlorat. | |
| M. | Sig.—External use. | |

Bonain, of Brest, makes use of this mixture, which is a clear syrupy liquid, in the following manner: A small bit of absorbent cotton on a stylet is dipped in it and laid against the membrane, which is viewed through a speculum. A slight burning sensation is produced, but in two or three minutes the local anesthesia is complete, and an incision can be made painlessly. The mixture acts to some degree also as a caustic, as is evinced by a slight reddening of the membrane.—*Med. News*, Jan. 7, 1899.

Orthoform in Toothache.

Dr. Hildebrandt asserts that orthoform causes to cease completely the violent pain due to inflammation of the pulp of a decayed tooth. To this end, it is sufficient to introduce into the cavity of the tooth a plug of cotton steeped in an alcoholic solution of orthoform. The pain instantly disappears, and for a considerable time. Being absolutely deprived of any toxic properties, orthoform constitutes in such cases a simple remedy, and one which the patient can apply himself without danger.—*Med. Press*, December 21, 1898.

Book Notices.

American Text-Book of the Diseases of Children.

By AMERICAN TEACHERS. Edited by LOUIS STARR, M. D., Late Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania, etc. Assisted by THOMPSON S. WESTCOTT, M. D., Instructor in Diseases of Children. University Pennsylvania, etc. *Second Edition, Revised.* Philadelphia: W. B. Saunders. 1898. Royal 8vo. Pp. 1,244. Cloth, \$7; Sheep or Half Morocco, \$8. Sold by Subscription.

One could scarcely have supposed in a text-book claiming to be *American* that of sixty-five selected contributors to its papers, not one of them represents a Southern State—including West Virginia, Kentucky and Tennessee in the list. Such exclusion looks as if it were intentional reflection—especially when it is recognized that in some of the twenty or more medical colleges of this section there are able men of extended reputation as *American* teachers and careful clinicians.

Leaving aside such suggestions as naturally arise from this apparent reflection, and turning to the merits of the work, we find that its text well covers the field of pediatrics. It includes even special chapters on essential surgical subjects, orthopædics, diseases of the eye, ear, nose and throat, and of the skin; also on the diet, hygiene and general management of children. But we do not see that some of the ailments of the child are as distinctly emphasized as we would expect to find in a work having so wide a scope. For instance, there are ephemeral conditions and febriculæ oftentimes causing the gravest alarm in the family and even leading experienced practitioners at times to the most serious prognosis, due to errors of diagnosis, regarding which no distinctive chapter is devoted. Along such lines, the physician in need of help turns in vain to the very full index or table of contents of this volume.

With reference, however, to the more distinctive diseases, such as the exanthemata, most of the well known bacillary and coccic diseases—diphtheria, pneumonia, etc.—as well as the diseases of special organs or tissues, we find each of them well described, and approved directions as to the principles and details of treatment are clearly given.

As compared with the former edition, we note a number of changes in the way of rewritten articles, the introduction of new subjects, and several transpositions, etc., which give by far greater preference to this "second edition, revised." Thus, tuberculosis and ma-

laria have been placed in the section on infectious diseases; among new sections are those that treat of "modified milk, and percentage milk mixtures" (which is a very important chapter), "lithæmia," and "orthopædics;" the articles on "typhoid fever," "rubella," "chicken-pox," "tuberculous meningitis," "hydrocephalus" and "scurvy," have been rewritten, etc. It would be impossible within the limits of space at our command, to fairly bring out the many points of excellence to be noted in this revised edition. We have, therefore, to content ourselves with the unreserved expression of opinion, that (with exception of the objection mentioned in the first paragraph of this notice) this book is invaluable to the practitioner. The index is very complete, which is a great help for ready references. The illustrations are, for the most part, helpful, and the part of the publisher has been well and generously done. The illustrations are numbered consecutively as to each of the articles in the book—not consecutively as to the book itself.

American Text-Book of Gynæcology—Medical and Surgical—for Practitioners and Students.

Edited by J. M. BALDY, M. D. *Second Edition, Revised.* With 341 Illustrations in the Text, and 38 Colored and Half-Tone Plates. Philadelphia: W. B. Saunders. 1898. Royal 8vo. Pp. 718. Cloth, \$6 net; Sheep or Half Morocco, \$7 net. Sold by Subscription.

The first edition of this work of almost inestimable value was published in 1893. That edition—excellent as it was—has been much improved upon in the issue of this second edition. The text includes the very latest of practical details, while the added illustrations and plates supply the deficiencies of the first edition. These plates are not copies from fanciful drawings, but are the reproductions of actual photographs taken during the progress of examinations and operations, and thus depict the real conditions. In fact, they show better what is to be seen than it is possible for the student beyond the first row of amphitheatre seats to recognize; so that they are really better than a clinical lecture itself when the patient is before the class. The text is as good as the illustrations in their practical bearings. Theories and discussions of them form no part of the book. The whole bent of the text is to diagnose the condition of the case in hand, and to describe down to the minutest details what is to be done, and how to do what can be done for the relief or cure of the patient. While naturally the work is mostly surgical, medical therapeutics is not neglected.

This text-book is made peculiarly authorita-

tive by the method adopted in its preparation for the press. Ten among the ablest of Professors of Gynecology in American Colleges are the authors. To each of the ten was assigned the preparation of the article on the subject on which he is supposed to be most conversant. This article in manuscript was then subjected to the criticism and annotations of the other nine; so that the finished article, as it appears in print, is practically the combined work of the entire corps of ten authors—thus rendering it next to impossible to omit any detail deemed worthy of mention. Hence the name of no one appears in the text as the responsible author for any of the chapters—all ten of them being held equally responsible.

It may appear a little sectional to note that all ten of the authors represent the practice of only four of the metropolitan cities of the United States. Thus, Drs. J. M. Baldy, Wm. Goodell, and E. E. Montgomery are put down to the credit of Philadelphia; Drs. Henry T. Byford and J. H. Etheridge hail from Chicago; Drs. E. B. Cragin, Florian Krug, Wm. R. Pryor and Geo. M. Tuttle represent New York City, while Dr. Howard A. Kelly is from Baltimore. Neither the New England States, the South nor any portion of the great West, except Chicago, is honored in the title by the mention of an author's name. While, of course, we recognize that every eminent gynecologist of the country could not be included among the list of authors of such a book, still it must be conceded that the book would be more appropriately accorded the title of "an American text-book" had some authors of equal ability to most of those named as contributors been selected from some of the sections of this great country not honored by mention. With the exception to which this paragraph refers, the *Text-book* under notice must rank as a perfect one—at least as perfect as it is conceivable for a book of the kind to be.

Manual of Bacteriology. By HERBERT U. WILLIAMS, M. D., Professor of Pathology and Bacteriology, Medical Department, University of Buffalo. With 78 Illustrations. Philadelphia: P. Blakiston's Son & Co. 1898. Cloth. Small 8vo. Pp. 263. Price, \$1.50.

While this book claims to be only a compilation, we are yet forced to recognize in it a very serviceable work. Without undertaking discussions, the author utilizes the space for the record of facts and details, which are important to the student, the practitioner and the professional bacteriologist as well. The reader cannot help being impressed with the simple, plain manner with which each subject—

however abstruse—is treated; so that the most difficult problems or minutest details are made easy of comprehension. It is a good class and laboratory book. Fully a half of the illustrations are of instruments, apparatus and methods; all the others are of the micro-organisms—mostly the pathogenic. This book has the order of systematic works in general; so that the novice begins at the beginning, and step by step progresses in his information concerning bacteriology. A good index is appended, which helps hasty reference to the page on which the subject is treated.

Treatise on the Science and Practice of Midwifery. By W. S. PLAYFAIR, M. D., LL. D., F. R. C. P., Physician-Accoucheur to H. I. and R. H., the Duchesses of Saxe-Coburg, and Gotha (Duchess of Edinburgh); Emeritus Professor of Obstetric Medicine in King's College, etc. *Seventh American, from Ninth English Edition. With 7 Plates and 207 Illustrations.* Lea Brothers & Co., Philadelphia and New York. 1898. 8vo. Pp. 687. Cloth, \$3.75 net; leather, \$4.75 net.

The numerous editions attest the popularity of this *Treatise* both in England and America. It is the text-book in many colleges and the reference or guide book of many more practitioners. It is thoroughly systematic in the presentation of its subjects, and the text covers almost every phase of the obstetric art as well as the science of the study. The illustrations are very numerous and helpful for the young obstetrician especially. A great value of the work for the novice is the special attention given to the description of details. While the author has based his book, for the most part, upon the lessons he has learned in the school of experience and observation, he has not been unmindful of the contributions of others to the branch of obstetrics. As compared with the immediately preceding edition, there does not appear to have been any material advance in obstetrics. In fact, the former edition contains ten pages more than the one under notice. The record of conservative Cæsarean operations continues to show a wonderful saving of mothers' lives. Forceps operations are well explained—both as to the necessity for resorting to them and also as to how to do them. The page or more on the *diagnosis* of tubal gestation should be carefully read by all doctors who may have to attend midwifery cases. For, while every guide to a positive diagnosis is most important, we must admit that a positive diagnosis is always very difficult. In the line of therapeutics of the puerperal patient—both medicinal or dietary, and surgical—we find nothing but the best advice given. While

throughout the work we find many notes from the American Editor, Dr. Robert P. Harris, we do not find his name on the title page as in former editions; nor is any reference made to him in the preface to the present edition. The book as it stands, however, has our most cordial best wishes.

Electricity in the Diagnosis and Treatment of Diseases of the Nose, Throat and Ear. *With 161 Illustrations.* By W. SCHEPPEGRELL, A. M., M. D., Ex-Vice-President American Laryngological, Rhinological and Otolological Society; late Assistant Surgeon to the Eye, Ear, Nose and Throat Hospital, New Orleans, etc. G. P. Putnam's Sons, New York and London. 1898. 8vo. Pp. 403. Cloth, \$4.50.

The history of electricity in medicine is very curious. There are none who use it expertly that do not realize its uses and recognize its possibilities. Day by day additions are made to its literature, and more and more its practical results are being demonstrated. And yet we may go from city to city without finding a doctor with a battery of any importance, or one who knows how to apply it in treatment with satisfaction. There must be a reason for all of this ignorance as to the uses and application of electricity to diseased conditions, and this reason possibly lies in the fact that the colleges have not taken hold of the subject, so as to give practical teachings of its value. Perhaps, also, a reason consists in the expensiveness of a proper outfit. Another reason may be the length of time necessary to keep a patient under treatment. There is to come a day when there will be a revolt upon the too much surgery of the present period. And then resort will be sought in less mutilating and less horrifying methods.

We have spoken so much in general to emphasize the earnest wish that all practitioners will review such a work as that now before us. It is true the work mostly concerns the specialist. But all the principles of electrical treatment are so clearly given in the work before us as to enable the reader to carry the lessons therein taught to other fields of practice where like brilliant results may be secured. For the general practitioner, there are some chapters of special importance. Those on electro-magnetic appliances, those on the X-rays, on electrolysis, interstitial electrolysis, cataphoresis, etc. It is presumed, of course, that the reader is first to master the chapters on the general principles involved in the study of electricity, the various means of generating the galvanic current, the arrangement of cells, the description of rheostats, and

understanding of milliamperemeters, methods of applying galvanism, etc. Of course, too, he should know what are induced currents, etc. To the specialist this book is of special interest in so far as it tells of the uses of electricity for tumors of the nose and throat, hypertrophic rhinitis; for the treatment of ozena, epistaxis, anosmia, reflex neuroses of nasal origin, etc.; its uses in deformities, ulcers, etc., of the nasal septum, in pharyngeal, tonsillar, laryngeal, tracheal, oesophageal diseases; in tubercular laryngitis, in diseases of the thyroid, etc. The applications of electricity to diseases of the ear, of course, are clearly described.

Saunders' Pocket Medical Formulary. By WM. M. POWELL, M. D., "One of the Associate Editors of the Annual of the Universal Medical Sciences"; Attending Physician to Children's Seashore House for Invalid Children, Atlantic City, N. J. *Fifth Edition, thoroughly Revised.* Philadelphia: W. B. Saunders. 1899. Pocket size, with flap and pencil. Pages 290. Price, \$1.75.

In this *Formulary*, diseases or conditions are alphabetically arranged, for each of which various well selected formulæ are given—the names of the authors being added. Such a collection of prescriptions must prove valuable to the physician; for, while no one would approve of routine prescribing, every one at times is thankful for a suggestive help. Appended to the formulæ are many valuable tables, etc. Among such are a posological table; formulæ and doses for hypodermic medication; poisons and their antidotes; diameters of the female pelvis and fetal head; obstetrical table; diet list for various diseases; materials and drugs used in antiseptic surgery; treatment of asphyxia from drowning; surgical remembrances; tables of incompatibilities; eruptive fevers; weights and measures, etc.

Refraction of the Eye *A Manual for Students.* By GUSTAVUS HARTRIDGE, F. R. C. S., Senior Surgeon to Royal Westminster Ophthalmic Hospital; Ophthalmic Surgeon and Lecturer on Ophthalmic Surgery to Westminster Hospital, etc. *With 104 Illustrations.* Ninth Edition. London: J. and A. Churchill. 1898. For sale by P. Blakiston's Son & Co., Philadelphia. \$1.50.

It is with pleasure that we welcome a new edition of Hartridge's *Refraction of the Eye*. The work is one to whose teachings we are deeply indebted. From its pages we learned the important lessons that retinoscopy is the best method for the determination of the refraction of an eye, and that painstaking efforts to master this art being the rich reward of sat-

isfaction that the time thus given has been well spent. In the preface Hartridge says, "those who would diagnose errors of refraction accurately, and prescribe suitable glasses for their correction, can only require the requisite amount of dexterity by practically working out a large number of cases of refraction. No book, or even the knowledge gained by watching others who are thus employed, can take the place of this, the practical part of the subject." It would be well were every student of refraction to bear these words always in mind.

The contents of this work have been well selected and well displayed, leaving just enough concealed to stimulate investigation on the part of beginners, and to such we can heartily recommend its pages. The especial claim of the book lies in the interest the author evinces in demonstrating the practical side of retinocopy and the success he here attains. If we may make any adverse criticism it would be that too little is said of refractive conditions as complicated by muscular errors.

Manual of Diseases of the Skin, with an Analysis of Twenty Thousand Consecutive Cases, and a Formulary. By L. DUNCAN BULKLEY, A. M., M. D., Professor to the New York Skin and Cancer Hospital; Dermatologist to Randall's Island Hospital, etc. *Fourth Edition, Revised and Enlarged.* G. P. Putnam's Sons, New York and London. 1898. Cloth. 12mo. Pp. 362. Price, \$1.25.

This is one of Putnam's "*Students' Manuals*," being published from time to time, which have become very popular. The present *Manual* is designed both for students and as an introduction to the study of dermatology, and as a work of ready reference for the practitioner. It is wonderful how much of good sound practical information has been included in a book of its size. The clinical descriptions being an analysis of 20,000 consecutive skin diseases, the subjects covered are such as are of most general importance to the practitioner. Special attention is given to matters of diagnosis and treatment—the essential things for the everyday doctor. For the class room, the arrangement is such as to adapt it admirably to the wants of a text-book. The indexes of the book are very complete, and especially will the "Diagnosis Index" be found most serviceable. About twenty-five pages of formulæ for various preparations useful in the treatment of skin diseases of all kinds are appended. After a review of the book, it is most unreservedly commended to the favor of all in need of a thoroughly synoptical work on skin diseases.

Schleich's Anæsthetic Mixture Condemned.

Dr. Henry J. Garrigues, of New York, having previously advocated the use of Schleich's Mixtures for general anæsthesia, has recently had some experiences which compel him to change his opinion in regard to the safety of these mixtures. The danger is in the effect on respiration. He reports two cases (*Med. News*, Jan. 7, 1899,) in which breathing stopped while using the mixtures, and refers to three others. He concludes his note as follows: "Thus having had five cases of dangerous respiration among little more than one hundred patients, to whom Schleich's mixture was given, I do not feel warranted in using it again, in spite of its excellent qualities, and I hereby beg to revoke the endorsement I have given it verbally and in print."

Editorial.

The Southern Medical College Association, and the Four-Years'-Graded Course.

During its meeting in Memphis, Tenn., December 5, 1898, this Association unanimously adopted a resolution that all students matriculating in any of their colleges represented in this Association after January 1, 1899, shall be required to attend four full courses of lectures as a requisite to graduation in medicine. Of course, all who matriculated prior to 1899, may graduate in three years, provided the time of graduation be not later than the annual commencements (nearly all of them in the spring) of 1903. The colleges represented in the act of the Southern Medical College Association on December 5, 1898, are:

University of Nashville,	Vanderbilt University,
University of Tennessee,	Tennessee Medical College,
Memphis Medical College,	Birmingham Med. College,
Med. College of Alabama,	Southern Medical College,
Talane University,	University of the South,
Texas Medical College,	Medical College of Virginia.

These, with the colleges of Kentucky that have adopted the four years' course, compose about two-thirds of the reputable medical colleges of the Southern States.

In connection with this subject, it will be recalled that the American Medical Association, during its session in Denver last May, adopted a resolution which, in effect, takes away from the membership of the Association all those who are connected with colleges which do not, after January 1, 1899, adopt the four years' graded course. We very much doubt the legality of any such action on the part of the American Medical Association, with such a Constitution as it has. It would certainly be unjust, at least, to those members of faculties who really favor the four years' course, and yet are

in the minority in their faculties. But this phase of the subject we do not propose at present to discuss.

This journal has time and again expressed itself as favorable to the four years'-graded course of medical colleges of the country. Our every expression on such a subject since the founding of the *Virginia Medical Monthly* in 1874 (afterwards changed to *Semi-Monthly*), has been in advocacy of higher medical education so as to perfect, as near as possible, the oncoming generations of doctors. We have neither intention nor desire to recede from such a proposition. There are too many essentials to the perfection of the doctor to be learned in three or even four years of medical college education not to be in general favor of such prolongation of term.

But there are some features connected with the case that do not seem to have been properly considered. In the first place, a natural inquiry is, How did such a question like that decided as it was at Denver, ever come before the American Medical Association? We feel confident that the mass of the profession of America are practically indifferent to the question. It was altogether right, however, and well within the domain of the Association of American Medical Colleges to have advocated such an issue. But when the latter Association, or members thereof, undertook, as they apparently did, to "rush" the matter unexpectedly and without warning through a meeting of the former Association, there is reason to suspect, as a motive for the act, a species of political jobbery or the work of tricksters. The higher, ennobling motives of a generous profession would not have consented to such a "rush-through" method of determining a question that has at least two sides.

The Association of American Medical Colleges is, for the most part, composed of Northern and Northwestern colleges that are heavily endowed. Their faculties are well salaried. But we doubt whether, as teachers, or as men able to judge the merits of the graduate, they are superior to many in the colleges of the Southern States. Competitive examinations of graduates of all the colleges before Army and Navy Boards, or State Medical Examining Boards, etc., are suggestive in this direction.

If the Association of American Medical Colleges has the power to go into the American Medical Association and expel its members, who have for a professional lifetime been honorable men and complying with all of the codal requirements, what limit of authority in the latter Association will the former acquire?

The cost of professional living in most of the great cities of the North and Northwest is much more than in the South. If the political scheming of the Association of American Medical Colleges can accomplish so much as the resolution rushed through the American Medical Association was intended to do, it would not surprise us to see at an early day another move, looking to the expulsion from the American Medical Association of any one who is a member of a college faculty that does not adopt some maximum figure as the tuition fee to be required of students. It has just as much right to do the one as the other. Now that the Southern Medical College Association has yielded to the demand for the four years' course, we caution it to be on its guard lest the major body undertakes to yoke it down to the requirement of charging the same high fees as are charged by many of the colleges of the North. Such fees would, in many instances, rob Southern medical colleges of Southern students.

Let us look at the subject for a moment from another point of view. Many academic colleges, as well as most of the preparatory medical schools, do not claim a rank among graduating medical colleges, although they thoroughly ground their students in microscopy, bacteriology, chemistry and other branches now required of first or second course students in medical colleges. It often happens that such students go to medical colleges as well prepared in these fundamental branches of medical study as are those who have finished like studies in the medical colleges; yet these students or proficient are to get no credit for the work they have accomplished in their academic course. They must, under the compulsory four years'-graded course, spend or lose an entire year in going over studies with which they are already familiar. Such compulsory four years' course is neither right to the student nor to the college; and it reflects seriously upon the preparatory school. We refer to such instances to show that no inflexible ruling can be made that is just to a large number of students.

The Tri-State Medical Society of the Carolinas and Virginia.

This Society, which is to hold its First Annual Session in Charlotte, N. C., January 18, 19, and 20, 1899, for Permanent Organization, has been developed into a very great success. Practically speaking, it starts off with nearly a full roster of members; for it is not the intention of the promoters to admit into the organization any but the best of the profession of the States

named. Of the present membership, about 55 hail from North Carolina; about 30 from South Carolina; and about 65 from Virginia.

The temporary officers of the Society (elected during the "Conference" at Virginia Beach last August) are Dr. W. H. H. Cobb, Goldsboro, N. C., *President*; Dr. H. H. Dodson, Milton, N. C., *Treasurer*; Dr. Paulus A. Irving, Richmond, Va., *Secretary*. Dr. E. C. Register, Charlotte, N. C., is Chairman of the *Committee of Arrangements*.

The Railroads of these three States—Virginia, North and South Carolina—will charge one and one-third fare to and from Charlotte. Purchase a first-class ticket going, and secure the certificate of the fact from the ticket agent on a "form," which the Secretary (Dr. Irving) will furnish on application. Central Hotel will be the headquarters of the Association during the session; \$2 a day to members of the Association.

After the formal opening of the Session, with *Address of Welcome* by Col. H. C. Jones, and *Response* by Dr. Hugh T. Nelson, of Charlottesville, Va., Dr. Cobb will then deliver the *President's Address*. After an *Executive Session*, papers will be called for in the following order:

Purposes of Tri-State Organizations—Dr. Paul B. Barringer, University of Virginia, Va.
Pseudo-Membranous Enteritis—Dr. J. M. Fladger, Summerton, S. C.

Cold as a Remedial Agent—Dr. E. B. Glenn, Asheville, N. C.

Lithemia—Dr. J. N. Upshur, Richmond, Va.
Blood-Washing and Blood-Letting—Dr. A. B. Knowlton, Columbia, S. C.

The Early Recognition of Pulmonary Tuberculosis and of the Pre-Tubercular State—Dr. Charles L. Minor, Asheville, N. C.

A Plea for the Earlier Recognition of Pulmonary Consumption—Dr. Louis F. High, Danville, Va.

Food and Its Auxiliaries—Dr. F. W. P. Butler, Edgefield, S. C.

The Treatment of Urethral Discharges—Dr. James M. Parrott, Kingston, N. C.

Remarks on the Relation of Diet to Hay Fever and Asthma—Dr. John Dunn, Richmond, Va.

Typhoid Fever; Diagnosis and Treatment—Dr. Rolfe E. Hughes, Laurens, S. C.

Reports of Cases, etc.—(Followed by general discussion.)

Appendicitis Complicated with Intestinal Perforation—Dr. George W. Long, Graham, N. C.

Diagnosis and Treatment of Tuberculosis Peritonitis—Dr. W. L. Robinson, Danville, Va.

Report of Cases of Rupture of Uterus during Pregnancy—Dr. Francis D. Kendall, Columbia, S. C.

Dystocia—Dr. David A. Stanton, High Point, N. C.

Vomiting in Pregnancy—Dr. R. S. Martin, Stuart, Va.

The Treatment of Placenta Previa—Dr. J. C. Harris, Anderson, S. C.

Application of Electricity to Diseases of Women—Dr. W. T. Woodley, Charlotte, N. C.

Material Aids in the Management of the First and Second Stages of Labor—Dr. Jas. Albert Anderson, Danville, Va.

Tubal Pregnancy—Dr. Virginius Harrison, Richmond, Va.

Abdominal Palpation Versus Vaginal Examination in Obstetrical Practice—Dr. John F. Winn, Richmond, Va.

Ovaritis; Acute and Chronic—Dr. L. G. Frazier, Youngsville, N. C.

Diagnosis and Treatment of Cancer of the Breast—Dr. Hunter McGuire, Richmond, Va.

The Importance of Early Operation in Appendicitis—Dr. John Whitehead, Salisbury, N. C.

Surgical Treatment of Duodenal Ulcer—Dr. Hugh M. Taylor, Richmond, Va.

Drainage in Abdominal Surgery—Dr. J. W. Long, Salisbury, N. C.

Sciatica and Its Treatment—Dr. Samuel A. Lile, Lynchburg, Va.

Report of Two Cases of Nephrectomy—Dr. George Ben. Johnston, Richmond, Va.

The Report of a Case of Complete and of Partial Ophthalmoplegia of the Right Eye—Dr. Charles W. Kollock, Charleston, S. C.

The Eye as a Causative Factor in Functional Nervous Diseases—Dr. W. H. Wakefield, Charlotte, N. C.

The Present Status of Laryngology and Rhinology—Dr. W. Peyre Porcher, Charleston, S. C.

Headache—Ocular and Nasal—Dr. J. A. White, Richmond, Va.

Brief Report of Cases—Dr. J. Steven Brown, Salisbury, N. C.

Treatment of Fractures—Dr. Hugh T. Nelson, Charlottesville, Va.

Subject not yet received—Dr. S. C. Baker, Sumter, S. C.

Some Practical Points in the Treatment of Diphtheria—Dr. Ramon D. Garcin, Richmond, Va.

What Medicine Owes to Bacteriology—Dr. E. C. Levy, Richmond, Va.

The Medical Examining Boards of North Carolina and Virginia; Their Relation to Each

Other and the Profession—Dr. A. S. Priddy, Keysville, Va.

State Institutions for Epileptics—Dr. Wm. Francis Drewry, Petersburg, Va.

Examination of Feces as Aids to Diagnosis—Dr. H. Stuart MacLean, Richmond, Va.

The Influence of Chronic Nasal Occlusion on Cerebration—Dr. Dirk Adrian Kuyk, Richmond, Va.

Diagnosis of Renal Calculus—Dr. Moses D. Hoge, Jr., Richmond, Va.

The Practical Treatment of Carbolic Acid Poisoning—Dr. Stephen Harnsberger, Catlett, Va.

Modern Views on the Nature and Treatment of Pulmonary Consumption—Dr. H. B. Weaver, Asheville, N. C.

Volunteer papers, and then adjournment.

Progressive Medicine

Is the title of a new journal to be edited by Dr. Hobart Amory Hare, and published by Messrs. Lea Brothers & Co., of Philadelphia and New York. The publication will begin in March, 1899, and is to be issued quarterly in four handsome octavo, cloth bound and richly illustrated volumes of about 400 pages each. It will contain condensed summaries of such readable and useful material as has been developed in the most recent medical literature. The associate editors include a brilliant gathering of the younger element of the profession, well representing the class which is so energetically contributing to make modern medical history. Full descriptive circulars and sample pages will be sent on application to the publishers. The annual subscription price for the four volumes is ten dollars—a very moderate charge for a work of such constantly practical importance.

Correction.

A recent neostyled business letter from this office, addressed only to some Washington doctors, stated that that city "has no medical journal." The fact that the *National Medical Review* is published there was overlooked. Happily, the letter was sent only to doctors who must recognize the error, which we regret was made.

Assistant Surgeon John Blair Gibbs, U. S. Navy,

Was the only medical officer of the United States forces killed during the recent Spanish-American War. Surgeon Edgar saw his associate shot by his side in the Spanish attack, in the action at Guantanamo while serving with the marine battalion.

Proposed Missouri State Board of Medical Examiners.

The profession is having a hard time in Missouri to secure a suitable enactment for a State Board of Medical Examiners. A committee of the Missouri State Medical Association was liberal enough to propose that one medical examiner be appointed from one thousand doctors of the State according to the respective schools of practice. This would give five regular doctors, one homœopath, one eclectic and one osteopath. The bill further provides that there shall be no discriminations made against the different systems of medicine that are recognized as reputable by the laws of this State. While the eclectic spokesman recognizes that "in the main the above bills are satisfactory," he yet intimates that he is "going to kick." We are sorry for Missouri, which, sooner or later, will become the dumping-ground of all the quacks and charlatans of the nation unless something is done, and done quickly, in the way of establishing a State Medical Examining Board.

Officers-Elect of Mississippi Valley Medical Association.

During the twenty-fourth annual meeting of this Association, held in Nashville, Tenn., last October, the following were elected officers for the current year: Dr. Duncan Eve, Nashville, *President*; Drs. A. J. Oshner, Chicago, and J. C. Morfit, St. Louis, *Vice-Presidents*; Dr. Henry E. Tuley, Louisville, *Secretary*; Dr. Dudley S. Reynolds, Louisville, *Treasurer*. Place for holding next annual session, *Chicago*—the time to be fixed by the Committee of Arrangements.

The Practice of Obstetrics, by American Authors,

Is to be a volume of such importance as to justify the announcement of its early forthcoming at a most opportune time. It will be edited by Prof. Charles Jewett, M. D., while it numbers among its contributors professors in many of the leading medical colleges; so that we may predict for it a widespread success in the student world. Obstetrics progresses so rapidly, particularly in this country, that a completely new work by acknowledged masters of all the subjects this book comprises will be welcomed. It will be a practical book, yet its suitability for the obstetrician will not lessen its value as a text-book. The publishers, Messrs. Lea Brothers & Co., of Philadelphia, have spared nothing in typography and illustration compatible with issuing the volume at a price within the reach of all.

Craig Colony Prize for Original Research in Epilepsy.

The President of the Board of Managers of Craig Colony offers a prize of \$100 for the best contribution to the pathology and treatment of epilepsy, originality being the main condition. The prize is open to universal competition, but all manuscripts must be submitted in English. All papers will be passed upon by a committee to consist of three members of the New York Neurological Society, and the award will be made at the annual meeting of the Board of Managers of Craig Colony, October 10th, 1899. Each essay must be accompanied by a sealed envelope containing the name and address of the author and bearing on the outside the motto or device which is inscribed upon the essay. The successful essay becomes the property of the Craig Colony, for publication in its Annual Medical Report.

Manuscripts should be sent to Dr. Frederick Peterson, 4 W. 50th St., New York City, on or before Sept. 1, 1899.

Cigarettes Prohibited.

By what principle of law we do not know; but it appears that the Supreme Court of Tennessee has rendered a decision to the effect that the cigarette is not a legitimate article of commerce—thus sustaining the legislative enactment of that State as to its constitutionality. We learn, also, that the City Council of Chicago has raised the license fee of the dealer in cigarettes from \$100, as heretofore, to \$500 a year. This is practically prohibitive—so far as small stores are concerned. Other cities are legislating on the subject.

Expiration of Patent on Antipyrin.

According to *Med. World*, January, 1899, the patent formerly held on antipyrin has expired. That patent enabled the manufacturer to sell this preparation for \$1.50 an ounce; now it can be bought on the drug market—in fact, from the same manufacturers, same style package, etc.—at 27 cents an ounce. Under the existing United States laws, there is no way by which these synthetic products can be prevented from securing a copyright or a patent. The only hope for protection is to prevail on the Commissioners, as well as upon Congress, now in session, to make a change in the United States patent laws.

Influenza

Has been the prevailing disease in Virginia during the past month. It is too soon yet to say whether or not the usual sequelæ of the disease will prove as fatal as in the epidemic of 1890. This epidemic seems to have spread all over the United States during the past few weeks.

The Printers' Devil

Is sometimes "a devil of a printer." In noticing in our last issue a "*Rare Chance for a Professional Opening*," we are made to say that "the home is located on a well improved three-acre lot in the healthiest and most fashionable part of Virginia." It should have read: "in the healthiest and most fashionable part of a town of Virginia." Again, Dr. Keister is made to agree to "introduce his successors," when in reality only *one worthy successor* is all that is wanted.

Obituary Record.

John B. Hamilton, M., D. LL. D.

It is our painful duty to record the death of the Editor of the *Journal of the American Medical Association* on the evening of December 24, 1898, at his residence at Elgin, Ill. The immediate cause of his decease was hemorrhage from a perforation of the intestine, communicating with a large abscess outside of the bowel [due to typhoid fever] which terminated life after an illness of less than one month.

It seems hardly necessary at the present time to enter upon a detailed narrative of the life of one who was so widely and well known throughout the entire country. Born in Jersey county, Ill., on December 1, 1847, his years numbered only fifty-one; but they were years that were crowded with incidents sufficient for centuries of ordinary human experience. Descended from a long line of distinguished Scottish ancestors, his father's family was brought up on the rich prairies of the Mississippi Valley, enjoying such opportunities for early education as were afforded by the village school, the country academy, and the classic courses founded by Prof. John Grant, a learned Latin teacher from Edinburgh, who had found his way to the heart of America. Thus trained and exercised in all the practical affairs of country life, from the hay field to the village printing-office and drug store, young Hamilton, at the age of 17 years, found himself drawn into the vortex of the Civil War, where he acquired that experimental knowledge of military life and discipline that was of such value to him during the remainder of his days. At the close of the war he returned to civil life, with an appetite for study intensified by the exercises of the field. Entering Rush Medical College, Chicago, he was graduated three years later with high honors, and immediately began the practice of medicine in his native country. Soon, however, he concluded to essay the career of a mili-

tary surgeon, and returned to the army of the United States as an assistant surgeon. Transferred from post to post, he rapidly became acquainted with the vast extent of our territory, and in positions of responsibility gave evidence of that rare ability for the organization and direction of great enterprises that was the prominent feature of his character.

In the year 1876, he transferred his connections, upon most honorable terms, to the United States Marine Hospital Service. In this service, his superior powers at once asserted themselves. He was rapidly transferred by promotion through the round of important stations, rising in rank till within three or four years he had reached the position of Surgeon-General of the United States Marine Hospital Service. This high office he retained through several different administrations of the national government, winning golden opinions alike from political friends and foes. During this period he effected a complete re-organization of the service, and contended successfully against repeated invasions of the country by epidemic cholera and yellow fever. Under his direction a rational system of quarantine and isolation was adopted, the necessary encampments were established, and panic gave way to intelligent confidence. In the halls of legislation his influence was as beneficently potent as in the field of medical action, and it is no exaggeration to claim that the most important acts for the security of the public health by the National Legislature during the past twenty years were originated and guided by the enlightened intellect of Surgeon-General Hamilton.

But the attractions of civil life finally drew Dr. Hamilton from the sphere in which he had been so long pre-eminent. Always fond of books and the scholastic side of existence, his library grew till it became one of the largest private collections in America. He was Professor of Surgery in the University of Georgetown, and was as actively engaged in private surgical practice as the arduous duties of his high office would permit. Called to the chair of the Principles of Surgery in Rush Medical College, he resigned all his positions in Washington, and removed to Chicago in 1892.

It is at this point that the principal interest of the *Journal* in Dr. Hamilton is centered. For many years an active member of the American Association, he was well and widely known to the members of that national body. An almost universal acclamation summoned him to the editorship of the newly-fledged publication which had undertaken to be the organ of communication between the Association and

the medical public at large. The *Journal* was young in years, and its management was inexperienced, and with comparatively little weight beyond the limits of the editorial sanctum. Dr. Hamilton at once deployed all his administrative faculties, placed everything upon a business basis, and before his death enjoyed the satisfaction of seeing the *Journal* in the front rank of the medical publications of the world.

Could he have remained satisfied with this victory, Dr. Hamilton might possibly have continued for many years upon earth in the full exercise of his beneficent powers. The leading sanitarian of the country, in all matters of national interest, his advice was sought in every quarter. No medical gathering of national or international importance was complete without his presence. His vigorous form, his genial countenance, radiant with energy and good-will, his persuasive voice, were never-to-be-forgotten features in every such assembly. At home his professional duties, his hospital work, his extensive private practice, were enough to wear out any ordinary man; but he was ever ready to expend his energies in behalf of any worthy cause that appealed to him for aid. In this way he gave much time and thought to the organization of the new Public Library in Chicago, and was most efficient as President of its Board of Trustees. To the surprise of his friends, despite this accumulation of cares, he accepted, in 1896-7, the position of Superintendent of the Northern Illinois Hospital for the Insane, at Elgin, Ill.—an office that heretofore was always considered sufficient to occupy the whole time of an ordinary official incumbent. But the Doctor speedily showed his mettle by a re-organization of the administration, that secured improvement in the care of patients, while leaving time for all his other labors—thus illustrating the old observation that among first-class administrators the busiest men still have the most leisure.

Now, alas, this career of action has reached its limit. As we look back upon its years we can more fully than ever appreciate its magnitude and its beneficent efficiency. Dr. Hamilton was fortunate in finding full scope for his remarkable power as a founder and organizer of incipient enterprises. He was fortunate, also, in being permitted to witness the success of his efforts, and he was doubly fortunate in being called to his reward before age or misfortune or any of the ills of life could dim the splendor of his reputation. He has gone, but his works live, and will forever exhibit the impress of his constructive power.—*Editorial Jour. Amer. Med. Assn.*, Dec. 31, 1898.

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MALIGNANT TUMORS OF THE BREAST.*

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Richmond, etc.

Malignant tumors of the female breast are so frequent, so dreaded by humanity, so little understood by pathologists, so fatal in their results, their treatment often so futile, and their early diagnosis so important, that every practitioner of medicine as well as of surgery should be familiar with their symptoms, diagnosis, and, as far as we know, their treatment.

With the exception of the uterus, neoplasms more often form in the female breast than in any other portion of the human body; thus in 13,824 cases of primary neoplasm in both sexes, consecutively observed in several hospitals, 17.05 per cent. were in the breast—(males 25, females 2,397). In the same series of cases the neoplastic process had its seat in the uterus in 19.02 per cent. of the cases. ("Diseases of the Breast," by W. Roger Williams). Indeed, it was found that 70 per cent. of all the neoplasms affecting women are in the uterus, breast and ovaries. This last result was obtained from observations in 9,227 cases. From this same careful observer (Williams), we gather the fact that in 2,432 consecutive cases of primary mammary neoplasm 81.07 per cent. were malignant and only 18.03 per cent. non-malignant.

Another striking fact is found in these statistics—namely, that neoplasm in general form 54.05 per cent. of cancer and 24.07 per cent. of non-malignant growths; but in the neoplasms that occur in the female breast 77.07 per cent. are cancer, and 15.07 are non malignant, showing that the female mammae are relatively much more prone to malignant neoplasm than other parts of the body.

CAUSES.

The influence of sex is very marked; 99 per cent. being found in the female and 1 per cent. in the male, showing that rudimentary and functionless organs are not liable to take on the neoplastic process. No doubt the hyperæmia attending lactation, menstruation and parturition constitutes an important factor in determining the disease in women. Statistics show that women are more liable to carcinoma in general than men. It is said that where 100 males die from cancer 223 women are destroyed by the same cause. Sex, however, does not influence liability to sarcoma. Williams found *brunettes* more frequently affected with cancer than *blondes*. To show the frequency of cancer of the mammary gland, Andrews collected 7,881 cases of cancer, and found of them 1,232 were cancer of the breast. The number of deaths in the United States in 1880 from cancer of the breast was 1,387. The left breast is said to be the one most frequently affected, but the difference between the liability of the two breasts to the formation of this neoplasm is very slight. In one or two per cent. of the cases both breasts were involved.

Billings has demonstrated an interesting fact from the statistics he has gathered—that the older and higher the civilization of a community the greater the number of cases of breast cancers; but he also adds "a large proportion of cancer indicates that the locality is healthy, and a long settled one." He found in the New England States, and on the Southern Pacific coast, cancer quite prevalent. The same condition is observed in the central part of Michigan and in southern Wisconsin. Roswell Park says that from various sources he finds that Buffalo, N. Y., is the centre of a country with a radius of 200 miles, where the death rate from cancer is greater than in any other part of the United States. With grim humor he calls this area the "Tropic of Cancer." While no part of the world is exempt from the disease, it is evidently more common in some localities than in

* Read in part before the First Regular Session of the Tri-State Medical Association of Virginia and the Carolinas, held in Charlotte, N. C., January 18, 19 and 20, 1899.

others. It is more frequent in Europe than in America, and relatively more common in the wealthy and easy going portion of the population in both countries than in the laboring and hard working people. Rayer states that cancer is less liable in herbivorous animals than in the carnivorous—the reverse being the case in tuberculosis. Beneke says that cancer is uncommon in prisons, where animal food is not abundantly supplied, but it is noted also that vegetarians are by no means exempt from the disease.

Race.—It is stated by some writers that cancer of the breast in the negro is rare. In experience it has been almost as common in the negro as in the white. This is confirmed by Dr. Matas, of New Orleans, who, in examining the records of the Charity Hospital, found sarcomata (except melanotic sarcomata) more frequent in the negro, and carcinomas fully as common in the negro as in the white race. But the United States Census Bureau reports show that cancer appears twice as often among the whites when compared with the blacks. In this country the disease is more common in Germans, then the Irish, and either of these races is more liable to it than natives of America. The Indians of America are singularly exempt from cancer.

Age.—The disease makes its appearance most commonly between 40 and 50 years of age. Gross gives the average 48.66 years, or about the menopause. Probably the neoplasm more often precedes than follows cessation of menstruation. The next most frequent period is between 50 and 60 years, after that from 30 to 40, and last in frequency from 60 to 70 years of age. Occasionally cases are met between 20 and 30, but they are rare. I found one case in a young married woman of 19, verified afterwards by the microscope, and by the recurrence of the disease after an operation. It has been found that 80 per cent. of the cases occur in married women; and Bryan found that the more prolific the woman was the more prone she was to cancer.

Heredity.—Opinions as to the influence of heredity on the production of cancer are very conflicting, and as no accepted theory can be adduced by which this can be settled, we are reduced to an examination of the results of statistics in carcinoma. Frequently statistics can be made to accord to the views of the individual employing them; but there are some statistics in regard to cancer which cannot be changed and, are interesting and instructive. I will state the results of this investigation as briefly as possible. Williams says that 24 per cent. of

his cases were due to heredity, Bryan 12 per cent., Gross 9 per cent., and Paget 33 per cent.

From statistics we gather: First, that either parent having cancer may transmit a liability to it to his or her descendants; that, as a rule, the mother is more apt to do this, as in general, the mother is more apt to transmit her virtues and vices to the offspring than the father; that as all nature has a tendency to return to normal rather than to abnormal conditions, this tendency of cancer—as well as other diseases—grows less and less with succeeding generations. As instances of family cancer in successive generations, the following may be quoted:

Williams cites the case of a woman with uterine cancer whose maternal grandmother, mother, mother's sister, and two sisters had all died of the same disease of the womb. Sibley, of a mother and five daughters, all of whom died with cancer of the left breast. The first Napoleon lost his father, brother and two sisters with the disease that killed him—cancer of the stomach. The celebrated case of Madame Z., recorded by Broca, is familiar to all. Madame Z. died of cancer of the breast. She left four daughters, all of whom died with cancer, and of twenty-six descendants who reached or passed the age of 30, fifteen died of cancer.

I operated for cancer on the left breast of a very intelligent gentleman of Virginia, whose grandfather and father had died of cancer of the face. Two of this gentleman's brothers had died in the same way; and one sister, upon whom I had operated for cancer of the breast twenty years before, is still living and well. This gentleman recovered from the operation, and twelve years after died with cancer of the face. It is remarkable that in the case of the sister no recurrence should have taken place; and another interesting fact is that in the present very numerous descendants, many of them over 50 years of age, there should be no case of the disease.

Another interesting deduction from a study of these cases is, that the predisposition to cancer may be latent for many years, and at a certain time of life develop. Thus the four daughters in the celebrated case of Madame Z. were born fifteen, twenty five, twenty-six and thirty years before the mother developed cancer, and yet all four died with this disease. It is also noted that cancer usually makes its appearance in the offspring when it reaches the same age that the disease developed in the parent. Sometimes one generation from cancerous parents entirely escapes, and the next generation or grandchildren develop the pre-

disposition to the disease. The rule is by no means invariable, but quite common, that transmitted cancer attacks the same organ in the offspring that was affected in the parent. Sibbey's case, just related, is a striking example—the left breast in all the cases. Female relations are more apt to inherit cancer than the male. Tubercle, rheumatism and gout are often associated with cancer, and these diseases seem to be intimately connected.

Increase in Frequency.—Another fact of great interest and importance is that cases of cancer in proportion to population are much more numerous than formerly. The disease is rapidly increasing, while cases of tubercular disease, small-pox, typhus and many other maladies have markedly diminished in number.

Traumatism.—Thirteen per cent. of the cases of cancer of the breast arise from this cause. I do not think there can be any question that traumatism has often something to do with the formation of cancer in persons predisposed to the disease. I too often see cases where the disease makes its appearance after a contusion has been received on the breast to doubt it. The injury may be slight—as striking against a bed-post in the dark—but the blow may be sufficient to set up the cell changes that develop the disease. In this way the broken stays in a corset may provoke some inflammation in the connective tissue, and the same cause may reproduce the cancer in the scar tissue after an operation has been done for carcinoma.

Mastitis.—Mastitis, especially if the inflammation leads to suppuration and the formation of scar tissue, may also predispose to the cell changes which end in carcinoma. It is estimated that 30 per cent. of all the cases originate in this way.

Mental Depression.—It is said that prolonged mental depression predisposes to cancer, and that individuals who for years dread the disease are more prone to have it. Great and continued mental depression, by producing impaired nutrition and lessening physiological resistance, may, it is easy to believe, conduce to the formation of the disease.

LOCATION.

If two lines, one vertical and one horizontal, are drawn through the nipple, they will divide the breast into four segments. It will be found that cancer forms more frequently in the upper and outer segment than in the lower part, and least of all in frequency in the segment next to the sternum. As the outer edge of the gland

is richer in acini than the central portion, carcinoma more often appears in the periphery of the organ. In 132 cases reported by Williams, 90 were peripheral and 42 central.

TYPES OF BREAST CANCER.

There are two forms of carcinoma of the breast—one known as *acinous* and one as *tubular*. The former is by far the most common, constituting, according to Williams, 94 per cent. of all the cases seen.

The *acinous* form of tumor, as its name implies, begins in connection with the acini; and the tubular—or “duct cancer”—commences in connection with the ducts.

ACINOUS CANCER.

The acinous variety of cancer of the breast, is subject to many histological changes, and this has caused some confusion in the classification of cancer of the breast in different works. It has been called, when the alveoli are large, “*alveoli cancer*,” but the name only tends to mislead, as all carcinomatous tumors have alveoli. When the tumor is hard and nodular, the stroma predominating—dense, indurated, scar-like in character, the cells inclosed in spindle-shaped or elongated alveoli—the variety is known as *scirrhus*. As a rule, the denser and harder the tumor, the less the malignancy.

When the cells greatly predominate, and the stroma—made up of fibres of connective tissue infiltrated irregularly with cells—is sparse, the tumor soft, growing rapidly, very malignant, it is called *soft*, *encephaloid* or *medullary* cancer. A rare form of acinous cancer of the breast, sometimes attending pregnancy and lactation—but occasionally making its appearance independent of these conditions—is sometimes seen, which runs its course rapidly and ends in a few months in death. It is an *acute type* of the disease. There is no specially defined tumor but the whole of one or both breasts is involved. Beginning suddenly, the breast enlarges, becomes hard and taut, the skin red, painful, adherent, with enlargement of subcutaneous veins. Lymphatic involvement rapidly supervenes. Nothing more than palliative treatment can be done.

The common form of acinous cancer, to distinguish it from the last, may be called *chronic carcinoma* of the breast. This form requires years for its full development and termination. Between these two extremes of acute and chronic there are cases so rapid or so slow in their formation that it is difficult to say to which class they properly belong. Paget says the earlier the disease begins the more rapid

its course. With an average of 43 years, they live 18 months. At an average of 51 years, life lasts from 18 months to 5 years. The disease beginning at the age of 56 or 57 years, patients live from 3 to 8 years. I think it may be stated that a large proportion of cases, not operated on, die between 6 months and 3 years.

Another form of acinous cancer characterized by its extreme chronicity is called *atrophic*, which, according to Gross, constitutes 7.9 per cent. of all the cases met with. In this variety the neoplasm and whole breast undergo constant shrinkage. The epithelial cells undergo fatty degeneration and are absorbed, leaving a small, densely hard mass (*stone cancer*), knotty and irregular. From the mass are sent out hard, white, fibrous-like "roots," into the parts around: retraction of the nipple is common, and, later, fixation of the mass and ulceration. Occasionally, the disease is soon attended by lymphatic involvement and cachexia, and ends life in a year or two; but, as a rule, it is very chronic and lasts for 10, 15 or 20 years. It is eventually fatal, and never followed by spontaneous cure. In some cases, the shrinkage is so great, of breast and tumor, that the part looks as if it had once been amputated, and there is nothing left but scar tissue.

Still another rare form is seen, called *colloid* carcinoma of the breast. This is when the cells, and probably the stroma as well, are filled with a gelatinous, nearly transparent matter, and have undergone colloid degeneration. This form begins as a hard, small, solitary tumor, growing very slowly, tardily involving the skin and lymphatics, taking ten or twelve years to run its course. In no other form of mammary cancer is general dissemination so slow. After a longer or shorter time, however, involvement of lymphatics, skin, and possibly the other breast, with general dissemination and cachexia, follow. The slowness is due to destruction of the cancer cells by the colloid metamorphosis. Recurrence is slow after operation in colloid cancer.

Another form of cancer of the breast, so rare that Williams, in 2,397 cases of primary neoplasm of the breast, did not find a single instance, is known as *melanotic* cancer of the breast. The black or melanotic appearance is due to granules of melanin or hæmatoidin infiltrated into the cells and connective tissue of the diseased part.

In a case of melanotic cancer of a woman, aged 60 years, at my clinic a few weeks ago, numerous melanotic growths were found on the back, both arms, and abdomen of the patient. The tumors varied in size from a garden

pea to a large walnut. There was already axillary glandular involvement and general cachexia. No operation was advised, and the patient in a few months died from exhaustion.

Development and General Course.—Cancer of the breast usually begins as a hard solitary lump in the mammary gland—so hard to the feel that it is often called *scirrhus*; never very large at first, possibly about the size of a pullet's egg or smaller, and rarely ever larger than a turkey's egg. An examination with the finger shows usually masses of hard fibrous-like tissue radiating from the central mass in different directions. When a section of the mass is made, it cries under the knife like a raw potato, and has about the consistency of that vegetable. When cut across, the mass contracts, leaving the surface slightly concave. If the cut surface is gently scraped with a knife, a milk-like fluid is obtained. The cut surfaces have a dense, white, fibrous appearance, with here and there little fatty points. These fatty points are degenerated epithelial cells in the alveoli, and are characteristic of *carcinoma*. They are absent in *sarcoma*, and in simple non-malignant growths. The periphery of the growth is not so dense or white as the central portion, but softer and elastic, grey in appearance, and covered with the natural fat of the gland. The tumor has no capsule, and its margins are difficult to define. It may be said here and there to be dovetailed into the adjoining healthy tissue, and isolated collections of cells may be found some distance from the tumor proper. When examined microscopically, columns of epithelial cells are found buried in dense hard fibrous tissue.

In about 6 per cent. of the cases of the acinous form of cancer of the breast, the tumor is soft, very vascular, and lobulated, growing rapidly, very malignant, and known as "encephaloid," "medullary," or "soft," cancer. In these cases, the tumor is larger, and lymphatic involvement rapidly supervenes, early ulceration takes place, and recurrence after operation is almost certain. According to Gross, death takes place, on an average, in 8 months. At first, the tumor may be firm and elastic to the touch, but later is soft and at some points fluctuating from the presence of cyst formation. When cut into, it is soft and pulpy in consistency and succulent in appearance; but when microscopically examined, characteristic carcinoma is found. Its color is reddish grey, with whitish trabeculae of fibrous tissue running across it in different directions. There is no envelope, but the tissues around are irregularly infiltrated by the cancer growth. So-

called cancer juice in abundance is seen when the part is lightly scraped with the knife.

DUCT CANCER.

Soon after the menopause, when the glandular tissue of the breast begins to undergo atrophy and the ducts remain, the latter become dilated, and have formed in them occasionally involution cysts. These cysts are small, and contain a mucus-like material. From the inside of these cysts, or from the undilated duct itself, cancer may spring. The terminal ducts are the ones most often involved. The tumor is generally single, and about the size of a walnut. When cut into, a distinct capsule consisting of the dilated duct is found, and within the cyst, and sprouting from the cyst wall, and more or less completely filling the cavity, is a reddish mass showing a tendency to infiltrate the surrounding structures.

In this form of cancer, which is not common, the first symptom noticed is a blood-stained discharge from the nipple; the nipple is more commonly retracted than in the acinous variety. The tumor is in the centre of the breast just below the nipple, and never of very large size. It increases slowly. Lymphatic involvement is rare, or tardy in making its appearance; local recurrence after operation is not common. It occurs in elderly women.

PAGET'S DISEASE OF THE NIPPLE.

In this connection may be mentioned a disease which should not properly be classed as carcinoma of the skin, but its presence is so often accompanied with or followed by cancer of the breast that it is appropriate to speak of it here. It was originally described by Sir Jas. Paget, and is known as "*Paget's Eczema of the Nipple.*" It rarely occurs in women under forty years old, and may follow confinement or lactation. The nipple and areola, the first seat of the disease, become intensely red and raw, exuding in abundance a clear mucus-like discharge. Sometimes a dry crust forms, difficult to detach. After once formed, it continues to spread superficially and in depth until the skin becomes swollen, raw, and bleeding. After a time, ulceration sets in, and a deep, ragged ulcer is seen. At first, the nipple is retracted, and eventually may be inverted. The disease may also enter one of the lacteal ducts, and a tumor be felt deep under the nipple. Some suppose the disease begins as duct cancer, and the eczematous appearance of the skin is due to the discharge from the nipple frequently attending this form of cancer of the breast.

Others believe that the cancer extends from the surface through some of the lacteal ducts, and in this way cancer of the breast is formed. Glandular involvement is absent, or very late in making its appearance. Prognosis is good if the breast is removed early.

[TO BE CONTINUED.]

TWO CASES OF RUPTURE OF THE UTERUS—POST-MORTEM CÆSAREAN SECTION—ONE CHILD SAVED.

By FRANCIS D. KENDALL, M. D., Columbia, S. C.

I have two very short cases I wish to report, so will take but a very few moments of your valuable time.

CASE I.—I was sent for by a midwife at 3 A. M., in haste, July 13, 1894. She had a woman in labor (colored), and needed the assistance of a physician. I hurriedly went to her, and found the woman had just died. She was still quite warm. On examining the abdomen, I found it very large. On digital examination, I could feel the child's head, but could not ascertain the position, as the head moved upward when touched. I then tried to apply forceps, but the head slipped entirely out of my reach. I could distinctly feel the child moving—so I determined to open the body.

As soon as I opened the abdomen, the child's head popped up through the opening I had made; it was entirely out of the uterus. On examining the contents of the abdomen, I found that the uterus had ruptured the entire length on the left side, from the fundus to the os, and on the right side there was an intramural fibroid tumor, which, with the womb, weighed fourteen and a quarter pounds. The child was a well-formed boy, weighing nine pounds. The woman had borne six children before without trouble, except the one before this, which was removed with instruments, alive. The woman was a negress, thirty-four years old, and had always been healthy. The child died just after it was delivered.

CASE II.—This case is somewhat similar to the above. I was again called by a midwife, this time eight miles in the country, at 4 o'clock in the morning, on January 20, 1897; when I got to the house it was 6 o'clock. I found a handsome young woman dying, but could see the child moving distinctly; I waited until the end came, which was at 6:35 A. M. Just as soon as she died I opened her, and found that the uterus had ruptured. It seemed to have just split, from the fundus toward the

os. The placenta was still intact and the cord pulsating, but very feebly. The rent in the uterus was on the left side, and the child was partly out of the organ, and alive and kicking. I tied the cord and removed a fine boy weighing ten and a half pounds. He is still alive and well. The mother was a young woman eighteen years old, and this was the first time she had been pregnant. She was well formed, and weighed about one hundred and thirty pounds. She was five feet two inches high, white, and in good circumstances for a farmer's wife.

1309 Plain Street, Columbia, S. C.

TUBAL PREGNANCY.

With Report of Three Cases.*

By VIRGINIUS HARRISON, A. M., M. D., Richmond, Va.

Lecturer on the Practice of Surgery, University College of Medicine, Richmond, Va., etc.

I cannot fail to believe that many women lose their lives each year from undiagnosed tubal pregnancy, having their death ascribed to various indefinite causes which are supposed to produce sudden death. This will be more emphatic if we recall the cases of tubal pregnancy that come under surgical care with a false diagnosis. Knowing of two such cases occurring within the past six months, I am prompted to write this paper in order to elicit a discussion of this subject, especially in regard to its diagnosis; for we who see these cases first are often as much responsible for the outcome of the case as he who applies the first dressing to the perforated abdominal injury.

CASE I.—Mrs. P., age 24, white, one child 2 years old. History: Tubercular, painful menstruation from the beginning. On vaginal examination, she was found to have tubal disease on both sides. Operation was advised, but declined, with the hope that delay would bring relief. After an unusual painful menstruation in October, 1896, she decided to have the operation performed. Soon, however, symptoms of pregnancy developed, and I advised waiting.

In November, she did not menstruate. I did not examine her, nor did tubal pregnancy occur to me until December 6th, when she was taken with a sudden pain in the left side. She was removed to the Virginia Hospital

that evening, and was operated on the next day.

On opening the abdomen, a large quantity of dark blood escaped, and continued to do so until the tube on the left side was secured. The pelvis was filled with clotted blood. The tube was ruptured, filled and distended with clots of blood. The ovum was not found. The diagnostic points were sufficient to pronounce it tubal pregnancy. The tube and ovaries of both sides were removed as they were diseased.

CASE II.—On June 18th, 1898, I was sent for to see Mrs. —, aged 36, white. Personal history excellent. Had had three children—the youngest 3 years old. The object of my visit was to do something to stop her "sickness," which had been on her for about nine weeks. I brought out in the consultation that at the beginning of the attack she had suffered a great deal of pain in the region of the right ovary, which had lasted for several days; this was relieved by morphine. About a week later, she was seized by another similar attack, and suffered from nausea both during the attack and for a short time afterward. I made a vaginal examination, which revealed a large mass in the right side of the cul-de-sac, which felt like a cystoma of the right ovary. I told her what I had found, and that it might be tubal pregnancy, and advised immediate operation. She decided in a day or two to have it done, and went to the Virginia Hospital, where on June 25th, 1898, I removed this specimen from the right side. On the left side, I found a large cyst of the ovary, which I also removed.

This mass is the prettiest specimen [exhibited] of tubal pregnancy I have ever seen, and is complete in all its parts. You will notice the fetus, a little disturbed by handling and the fluids; notice the eyes, mouth, chin, prolongations for hands and feet; the umbilical cord leading to the placenta. Immediately outside of the sac, you will observe the blood clot from the hemorrhage at the time of rupture. This is surrounded by lymph thrown out by nature to protect the peritoneal cavity, the outer part of which has become organized. The patient left the hospital entirely recovered in three weeks after the operation.

CASE III.—White, age 30, married five months, history of dysmenorrhea. She had had the cervix dilated with no apparent benefit. Six weeks before I saw her, she had a severe attack of pain in the right side of the abdomen, which was relieved by morphine and rest in bed for several days.

*Read before the First Regular Session of the Tri-State Medical Association of Virginia and the Carolinas, held in Charlotte, N. C., January 18, 19 and 20, 1899.

She came to Richmond, and was seen by me on October 29, 1898. Her condition was such as to make me suspect typhoid fever.

In the evening of the 31st of October, I was hastily summoned to see her, and found her in great agony, the pain being referred to the lower part of the right side of the abdomen. There was some shock, but it was not severe. Pulse, 120; temperature, 102° F. Rigidity of the right side of the abdomen present, but not marked. I was not able to differentiate the cause of her trouble, but considered it either tubal pregnancy or appendicitis.

Morphine was administered hypodermically and salts by the mouth. I saw her early the next morning, and her condition was going from bad to worse. The rigidity had markedly increased, as had the temperature and pulse. She was immediately removed to the Virginia Hospital. As she had been a surgical patient of Dr. Hunter McGuire, he was called, and we operated on her that morning.

Section revealed the intestines matted, and covered with lymph, beneath which we found a large suppurating mass in the right broad ligament, with the tube adherent immediately above. The case was considered one of tubal pregnancy, which had ruptured into the broad ligament six weeks previously, and had now become infected.

Owing to the necrotic condition of the sac and the ligament, we ruptured the abscess in delivering it. The general peritoneal cavity had been previously walled off with sterilized strips of plain gauze. The pelvis was drained by a glass tube and gauze strips. The tube remained in for thirty-six hours, the gauze for one week, and then renewed daily as long as drainage kept up.

The temperature and the pulse of the patient ran a septic course for a week. Concentrated nourishment, strychnia, and the rectal use of the saline enemata, enabled the patient to overcome this, and in eight weeks the wound was closed and the patient was well.

HISTORY OF TUBAL PREGNANCY.

The study of this subject is not a new and untrammelled road. On the contrary, Albus described his first case in the middle of the eleventh century. Baynham, of Virginia, did an operation in 1790 and another in 1799, both successful. About this time other pioneer operators did successful work.

Since Lawson Tait performed his first successful operation for ruptured tubal pregnancy in 1883, a new era has dawned, and much has been written on the subject, until now there is

hardly a journal that does not report some successful operation. When we all have learned to diagnose tubal pregnancy, to find one going beyond the fourth month will be a surgical curiosity, and the discussion of the late treatment will be then unnecessary.

ETIOLOGY.

Concerning the etiology of tubal pregnancy, many theories have been advanced, but none have been generally accepted as definite. Nor is this likely to occur until the exact location of the meeting of the ovum and spermatozoa has been satisfactorily demonstrated. Tait and Sutton³ both believe that this occurs in the uterus. Minot³ says: "Nothing positive is known as to the site of impregnation in the man, but there is no reason to suppose, as is unfortunately done, that the site is variable or different from that in other mammalia." Her twig and Minot³ admit that impregnation takes place in the oviduct in placental mammals.

The most plausible theory, and one that will be recognized until proof of a better, seems to be some mechanical obstruction in the Fallopian tube to the ovum on its journey to the uterus, but not sufficient to prevent the spermatozoa to pass to the location of the ovum. Whether this obstruction is due to the tortuous condition of the tube, or a diminution of the calibre by bands or tumors or lesion of the epithelium lining the tube, are the points much discussed and still undecided. A case is reported by Williams and Salaman², in which there was no apparent condition in the tube to account for the tubal pregnancy. The statement generally met with that tubal pregnancy is more often found in women who have been sterile for several years, needs some qualification.

"It may occur," according to Mr. Treves,⁴ "in the first pregnancy in women who have been married from eight to twenty years. It may follow a *normal pregnancy* or an *abortion*, in a newly married woman or a mother of a large family. Both tubes may be pregnant at the same time, or at different times." You may have, at the same time, intra- and extra-uterine pregnancy.

VARIETIES.

It is not my purpose to enter into a discussion as to how many varieties and sub-varieties we may meet in operating, for the treatment varies but little. I will accept the opinions held by Messrs. Tait,³ Treves,⁴ Lusk, Price,⁵ *et als.*, that all cases are tubal at first, and all others are produced either by abortion or rup-

ture of the tube. The possibility of a pregnancy commencing in the ovary or abdomen is admitted by Greig Smith, et al.

PATHOLOGY.

We owe a great deal to Bland, Sutton, and Tait for what we know of the pathology of tubal pregnancy. The changes which occur in the tube as it enlarges is due to an increase in the vascularity, and not to an increase in the number and size of the muscular fibres, as occur in uterine pregnancy. The walls of the tube become thinned, and thereby weakened. The fimbriated extremity narrows, so that by the eighth week the abdominal opening is closed. Before this abdominal ostium closes, we may have either rupture of the tube or tubal abortion. By *tubal abortion*, we mean that the pregnant contents of the tube have been expelled through the fimbriated extremity into the abdominal cavity.

Rupture of a tube is said to be *primary* when it occurs between the third and twelfth week; and to be *secondary* between the twelfth week and the full term. The rupture may take place into the peritoneal cavity,¹ or "between the folds of the broad ligament—i. e., outside the peritoneal cavity."

Joseph Price,⁶ referring to the extra-peritoneal variety, makes this statement: "I have not, it is curious to remark, observed a so-called intra-ligamentous variety of this condition, and accordingly am somewhat skeptical as to its frequency and correctness of the pathology advocated by Hart and Carter, as shown by frozen sections."

At another time, and later, in a paper on "Surgery of Tubal Pregnancy," he says: "I am convinced, by my own surgical experience, that ectopic pregnancies are always tubal, that they rupture and end in some variety of intra-peritoneal mischief"

In the *American Text-Book of Gynecology*, the *American Text-Book of Obstetrics*, *Abdominal Surgery* by Greg Smith, *System of Surgery* by Treves, and other books, we will find the extra-peritoneal variety described. Therefore, I will consider the subject under the two varieties of rupture, at the same time granting that there is some doubt as to the existence of the extra-peritoneal variety.

The point of attachment in the tube of the placenta is an important one as regards the result of the rupture to the mother. If the placenta is situated in the upper surface of the tube, and the rupture occurs in this locality, the placenta is apt to be detached in whole or part, in addition to tearing the increased vas-

cularity of the tube, making a fatal issue from primary hemorrhage more probable. On the other hand, if the placenta has located itself on the floor of the tube, so to speak, it would be undisturbed by a rupture in other parts of the tube; and if the rupture occurred in the floor, the resistance of the dense tissues of the broad ligament would soon exert sufficient pressure to control the hemorrhage.

The causes of rupture are often slight, such as a misstep, straining, hemorrhage into the sac; sexual intercourse has been known to produce a rupture, and of course the natural growth of the ovum with the stretching and thinning of the tube wall. Usually a *primary intra peritoneal rupture* is followed by death due to hemorrhage without the immediate intervention of surgical aid. Should death not occur and much blood escapes into the peritoneal cavity, it soon collects in the cul-de-sac as a pelvic hematocoele. The date of rupture determines the amount of blood lost (in a degree), and whether or not the ovum is to escape into the abdominal cavity. After the seventh week⁷ the ovum rarely escapes from the tube, but more blood is lost, as the sac walls are prevented from contracting by the retention of the ovum. Mr. Tait and Dr. Joseph Price believe that every case of pelvic hematocoele is due to ruptured tubal pregnancy. In the early weeks, when the ovum escapes from the tube, and the placenta is not destroyed, the fetus may develop to term, and the patient pass through a spurious labor, and the fetus may mummify, saponify—a lithopædion be formed by calcification, or suppuration may take place, and the sac open into the bowel, bladder, vagina, or even through the abdominal walls. I recall a case where suppuration had taken place, operated on ten or twelve years ago. The patient had carried the tumor for nine years; it finally opened into the rectum, through which foetal bones were passed. Then it was that she came to Dr. Hunter McGuire, who removed the remaining bones.

There are other varieties described by some authorities as a separate class, but for practical purposes these I have named will be sufficient. The extra-peritoneal rupture of the tube, as has already been mentioned, is not primarily as dangerous to the patient, though a secondary rupture may occur with all the dire consequences of internal hemorrhage and septic peritonitis. According to Bland Sutton, "This rupture occurs after the death of the fetus, and is, in nearly every case, induced by suppuration of the sac." When the rupture of the tube has occurred without the escape of the ovum, na-

ture often comes to the rescue and builds a wall of lymph around the ruptured sac, to prevent its contents from invading the peritoneal cavity. This lymph may become organized, as was shown well in a case I recently operated upon.

Tubo uterine or interstitial pregnancy is not a true tubal pregnancy, for it occurs in that portion of the tube which passes through the uterine tissue. The changes in the sac are *not like the true tubal variety*, though it may rupture into the abdominal cavity, and it may occur at a much later date than in the variety already described. *Tubo-uterine gestation* may terminate by rupturing into the uterine cavity, and be discharged *per vias naturales*.

SYMPTOMS.

The symptoms of tubal pregnancy vary with the period. During the first month or six weeks, the ordinary symptoms of uterine pregnancy may exist. In other cases, we may not find the history so complete; in fact, but meagre signs will be obtained; and until the colicky pains occur, the physician will not be consulted. These pains may never present themselves until the time of rupture, as was true in H. I. Boldt's three cases²—one of which ruptured in his office waiting room. If the physician is consulted when these pains occur, or at the time of rupture, he will elicit that there has been some change in the menstrual function—there may be a diminution in quantity or a shorter duration, and shreds may be passed. The breasts are sensitive, morning sickness present. She or her friends will tell you she was as well as usual, until the colicky pains commenced, or after a slight exertion, there was a sudden sharp pain in one side of her abdomen, and she became very faint. If you see her soon after the rupture, you will find her more or less profoundly shocked, and often impending death will only be averted by an accurate diagnosis and a prompt and bold surgical intervention. If the hæmorrhage has not been large, or the shock great, she will soon rally, and will consider these symptoms were incident to a miscarriage which she has had, as now the uterus commences to throw off the decidua with a flow of blood, and the patient will feel as well as usual until taken with a secondary rupture within a few hours to a few weeks.

On vaginal examination before rupture, little can be done in making a positive diagnosis; yet, with the constant symptoms, we can give a very probable diagnosis. After rupture has taken place, we can either feel the tube en-

larged, boggy, exquisitely tender, situated a little behind and to one side of the uterus, pushing this organ forward. Or we may feel the cul de sac filled with blood—according to Joseph Price, a diagnostic sign of ruptured tubal pregnancy. The abdomen may be distended and tympanitic, due to the floating up of the intestines by the blood of the pelvis.

If the fetus lives to full term, sooner or later after the rupture you will be able to make out its form and position in the abdominal cavity. There will be an increase in the size of the abdomen, usually on one side or the other, in contradistinction to the median enlargement of uterine gestation. This lateral enlargement is independent of the uterus, which can be felt in front of and to the opposite side of tubal enlargement. At term, the woman will go through a spurious labor, and may fool both patient and doctor, unless the history of the case has been inquired into. After the labor has subsided, the tumor will decrease in size, and the changes already mentioned may take place.

DIAGNOSIS.

The fate of the patient often depends upon a correct diagnosis, and this is to be made promptly, for as Lusk has aptly said: "The resources of surgery are rarely successful when practiced upon the dying."

The *diagnosis before rupture* is seldom made except by accident, though some cases have been reported. One case I remember was diagnosed by Dr. Hugh M. Taylor, of Richmond, Va., and at a subsequent visit, while advising the necessity of an operation, the tube ruptured. Dr. Taylor's was, however, a unique experience.

The clinical history of a change in the menstrual function—either in quantity, character or time of occurrence, the breasts becoming sensitive, morning sickness present, colicky pains in one side of the abdomen—would give sufficient data to give a probable diagnosis of tubal pregnancy; particularly is this the case when, on vaginal examination, you find the tube enlarged, tender and boggy. Any or all these subjective symptoms may be absent, and no one, not even the patient, suspect her condition, until she is seized with the sharp pain in one side of the abdomen. The lips will pale, the pulse will be rapid and feeble, the skin bathed in a cold clammy sweat—in fact, all the symptoms of shock and internal hæmorrhage, more or less profound according to the amount of blood escaping into the peritoneal cavity. When the hæmorrhage has been large, the temperature will be subnormal.

With these symptoms present, and by vaginal examination revealing the position of the boggy enlarged ruptured tube, or the cul-de-sac filled with blood, there is only one condition that it could be mistaken for, and that is rupture of a tube containing pus. The ruptured pus-tube would give a more persistent pain, rapid rise of temperature, and the symptoms of internal hæmorrhage probably absent, with certain absence of the clinical history of pregnancy.

If the case is seen some time after rupture, the diagnosis can (only) be made by the history of the case, and vaginal examination, though even now the diagnosis will not always be clear, as will be seen in the two cases I report.

TREATMENT.

This part of the subject will have to be considered under several heads, as the condition of the patient and fœtus varies with the period of gestation.

The treatment naturally divides itself into the method—(a), before rupture; (b), at the time of rupture; (c), after rupture up to the fourth month; (d), from fourth month up to term; (e), after spurious labor.

The treatment by electricity has had some warm advocates, and even now some good surgeons advise its use, particularly before rupture occurs, with the hope of destroying the ovum. Those who advocate this measure do not expect to meet with uniform success, while others claim that the method is both uncertain and unsafe. Inflammatory action has been recorded after the use of electricity. Even should the fœtus be electrocuted, we have the conditions remaining for another ectopic gestation, and a foreign body that may become infected, and necessitate a more serious operation. On the other hand, an abdominal section before rupture in uncomplicated cases, is the work of a few minutes—a simple procedure, and should be attended with almost no mortality.

Mr. Treves, in his *System of Surgery*, considers no other save the operative treatment. Greig Smith, in his work on *Abdominal Surgery*, says: "The position that electricity holds, at present, as a plan of treatment in extra-uterine foetation, is, that it is suitable in the early stages, where it is not very dangerous, and is followed by an encouraging degree of success." Continuing in the same paragraph, he says: "It must be noted that in these early stages the diagnosis is uncertain; that the stimulation of an electric discharge may induce rupture, and that the danger is not over when the fœtus is killed. It may not destroy the vitality of the placenta."

This latter statement was illustrated in one of the cases already quoted from Dr. Boldt. The case was not diagnosed correctly at the first visit, and Dr. Boldt considered the patient suffering from a return of endometritis, from which she had suffered several years previous. Consequently, he applied a 50-milliamperes current for ten minutes on Monday. Friday, when she returned for treatment, she was seized with the pain while waiting to see the doctor. "This illustrates the unreliability of the galvanic current in such cases. The embryo was not killed, or the rupture would not have taken place."

The uncertainty of the results, I think, should be sufficient to condemn this method of treatment. The evacuation of the liquor amni by aspiration or incising the cyst through the vagina, has fallen into disuse on account of many more failures being recorded than successes. The same may be said of the injection of fluids into the sac, in expectation of destroying the fœtus.

Elytrotomy, or the *vaginal operation for tubal pregnancy*, is advocated by men whose opinions command respect, yet it seems to me too uncertain, as well as unscientific. We cannot, with certainty, predict the conditions in the abdomen until it has been opened. The intestines may be adherent to the sac, or the sac to any of the pelvic organs. To attempt to relieve these adhesions by the vaginal route, would certainly be working in the dark. There would be a great risk of tearing the viscera, and of causing hæmorrhage that will be stopped with great difficulty, if at all, and the danger of not removing all the diseased tissue. In this day of progress, surgery tends towards radicalism, or, in other words, complete work. This, I think, will rarely be done, save in the very simple cases, by the vaginal route. I have advocated none of these methods, for I consider the treatment before rupture by an abdominal section to be the ideal one. Unfortunately, we meet with but few that are diagnosed at the time.

The treatment at the time of rupture varies with the condition of the patient. The effect produced by the rupture may have been only moderate in degree, and the patient already recovering from the shock when seen by the surgeon. If such is the case, a short delay to prepare for an aseptic operation is justifiable and demanded. Do not put off longer than is necessary, for a repetition of the hæmorrhage may occur at any time. We may not find at the first visit such a happy condition of our patient; in fact, her condition may be alarm-

ing, not only requiring an accurate diagnosis, but the prompt action on the part of the surgeon if the acute anæmia is progressing or even not improving.

The use of the *normal salt solution* by infusion, either direct into the vein or under the skin, will here find a happy application, and will no doubt aid in saving many lives. Certainly it will do much in keeping the patient alive until the preparation for the operation has been made. The indication for treatment at the time of rupture can but be to open the abdomen, and in the one case to remove the ruptured tube to prevent future hæmorrhage in the near future, and in the other, to secure the bleeding vessels by removing the tube.

If the rupture is *extra-peritoneal*, the case is not likely to be so urgent—the pressure of the layers of the broad ligament will soon control the bleeding. If the fœtus is destroyed at the time of rupture, very little, if any, increase in the size of the pelvic hæmatoma will occur; consequently, there will be very little danger of secondary rupture. The operation can be deferred until everything has been prepared for an aseptic section. Should, however, infection from the tube or rectum occur, the hæmatoma must be removed at once.

If the fœtus continues to live and develop after rupture in the broad ligament, the patient is in danger of the consequences of a secondary rupture at any time. The indication here is for the early operative intervention. Some claim this to be the time to use electricity. Its use here has been followed by failures, and a case has been reported where the application of electricity caused rupture with a fatal termination before the preparation for abdominal section could be made. In these cases of intra-ligamentous gestation, as they are sometimes called, with the fœtus living, and hourly threatening to rupture, we will meet with a varied condition of affairs in operating which will tax the ingenuity of the surgeon to the utmost. Yet, the results will not be near as disastrous as allowing secondary rupture to occur. The disposition of the placenta is the bane of the operation. After the fourth month, and up to the spurious labor or term, we meet with another serious condition of affairs, which requires very acute discernment on the part of the surgeon to advise the best treatment. Here we have a living child, growing day by day, and the placenta enlarging, adding to the gravity of the condition of the patient, should operation be suddenly demanded. Without serious trouble, these cases sometimes go on to full term through spurious labor—the child

dies, the amniotic fluid absorbs, and the circulation in placenta ceases. If we were certain all cases would so happily terminate, we would not hesitate to advise the expectant plan of treatment. We cannot promise such results, so I must advocate the removal of the abdominal condition as soon as diagnosed, unless otherwise contraindicated by other conditions in the patient. Should you decide to defer operating, the patient must be carefully watched, and when untoward symptoms present themselves, resort to immediate extirpation of the pregnancy.

The chief danger in operating after the fourth month, is from the placenta. To leave it *in situ*, it may become infected, and be a source of great danger. To remove it, subjects the patient to a very great risk of a fatal hæmorrhage. During the operation, we may find the placenta attached just where we wish to make the incision in the sac, or we may dislodge it accidentally. We are not justified in attempting to remove the placenta unless we are certain we can control the feeding vessels. Some surgeons advise that we cut the cord off close to the placenta, sew up the sac, with the hope of the absorption of the placenta, and if this does not occur, to do the secondary operation for its removal. Other surgeons advise us to bring the sac up and sew to the lips of the abdominal wound, leaving the cord protruding through the opening in the sac, so that the placenta can be removed when detached. The sac is, of course, packed with iodoform gauze.

After spurious labor, when the child is dead and the circulation in the placenta has ceased, the operation is not so hazardous. It is hardly necessary to say that this abnormal condition should be removed. The route of removing must be determined by the case. If in close proximity to the vagina and attached, it may be removed *per vaginam*; particularly would this be indicated if suppuration has taken place. As a rule, however, the ventral incision will be better. If the case is *extra-peritoneal*, it may push the peritoneum up to such an extent as to strip it from the abdominal parietes and enable the operator to remove the abnormality without opening the peritoneal cavity. The incision in this case should not be made in the median line, as the peritoneum is often attached here, even when stripped off laterally.

Having considered the various conditions and the indications for treatment, I think you will all agree with me in regard to the importance of the subject, and especially in regard to the diagnosis and early operative intervention.

It is only delayed surgery that gives us these late cases to deal with. We all appreciate the dire consequences of delay in appendectomy. Let us be equally on the alert for this condition, and operate when any tyro in surgery should be successful.

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2706 East Grace Street.

MEDICAL EXAMINING BOARDS.

Especially Those of Virginia and North Carolina.*

By A. S. PRIDDY, M. D., Keysville, Va.

Ex-Member Virginia State Board of Medical Examiners, etc.

It is with great pleasure and satisfaction that we, the representatives of the medical profession of Virginia, meet our brethren of the Carolinas in this hospitable and progressive city of historic old Mecklenburg county, whose people gave the first expression to the sentiment that the American Colonies were fit for their own independent self government, and would have no other. North Carolina, adjoining the confines of Virginia for nearly three hundred miles without any natural boundary or barrier, and being first settled by Virginians, has in times of war always been found shoulder to shoulder with our people; and in business pursuits, in times of peace, has been our fair competitor. So strong and numerous have been the allied interests of the two States that I am very much disposed to accept as true a tradition related some years ago by Gen. Jubal A. Early at a Confederate veteran re-union in Richmond, that in the early part of the seventeenth century a commission, headed by Col. William Byrd, of Westover, met a like commission on the part of North Carolina to designate the boundary line of the two States, or rather Colonies, so great was the desire of Virginians to be North Carolinians, and *vice versa*. Having partaken freely of that hospitality and convivi-

ality which always attend meetings of Virginians and North Carolinians, they spent much time in losing the *even supposed* line between the two States, and to this day the citizenship of many inhabitants of the country aforesaid is a disputed question.

I hail with much joy this meeting as the means of bringing into closer touch the physicians of Virginia and the two Carolinas, and of effecting an organization for the mutual good of ourselves and the people of whose lives and health we are in a great measure the custodians. So, when our committee on organization honored me with a request to prepare a paper on some medical subject of interest to this Society, I had no trouble in deciding that a talk about the Medical Examining Boards of Virginia and North Carolina would be of more general interest than any with which I am familiar. And inasmuch as Virginia and North Carolina were the first States to enact laws constituting State Boards of Medical Examiners, I have written my paper with special reference to them, with no disparagement of South Carolina, who has followed her two sister States of this Society. Even though her medical law is not so old, I am informed it is doing a good work for the people and the profession of that State.

It is perfectly plain that public safety is dependent on the public health, and public health on capable and conscientious physicians. No nation can attain and hold high rank as an intellectual and political power whose citizens or subjects are under influences which tend to enervate and to make physical wrecks of them. The decadence of some of the greatest powers of the world has been due to these causes. In our immediate time we have seen the great Chinese nation go down in disgrace almost before the little army of "Japs"; and nothing, in my opinion, contributed more to this result than the habitual enslavement of the Chinese people to the use of opium for generations.

It passeth all understanding how an intellectual and enlightened people, whose capacity for dealing with those trying and complex questions which confront nations, has won the respect and admiration of the world, could so long commit the lives and health of themselves and of those dear to them to the care of a class of a people whose only legal requirement for fitness to practice the healing art was the possession of sufficient money to pay the license tax; and even this was not a pre-requisite in all of the States. So great was the popular indifference, and in many cases prejudice, against regulating the practice of medicine by law—it being regarded as a scheme for the formation

*Read before the First Regular Session of the Tri-State Medical Association of Virginia and the Carolinas, held in Charlotte, N. C., January 18, 19 and 20, 1899.

of a combine of doctors—that the people continued to elect and to reelect Legislatures which would bequeath to the coming generations large “Acts” of their legislative work filled with such laws as an “Act to protect fish in the waters of a Chickahomny or a Currituck,” but with no act to protect the public against that illiterate, ignorant, or unscrupulous class, who, under the title of “Doctor of Medicine”—in some cases self-designated, and in others *lawfully* (?) acquired by sojourn of a few weeks at, and by the payment of a small amount of money to one of the numerous medical colleges as the purchase money for a diploma.

That the physicians of America without any legal compulsion have for the most part been honest, faithful and capable men, and that many of them have attained the highest positions among the great men of the world, is a tribute to American honor and manhood rather than to the requirements of public policy by law. It has been ever thus in the world's history that mankind would reject the kind offices of those laboring unselfishly for mankind's good. Under this prolonged chaotic condition, men too lazy to earn an honest living by manual labor, others too wanting in education and intelligence to win footholds in any of the other learned professions, found easy admission into the ranks of the medical profession. So great became the demand for medical colleges of slack requirements and of low-priced tuition, that most of the large cities abounded in institutions which vied with each other in graduating the largest classes on easiest terms.

These so called graduates, under the protecting ægis of a diploma, were turned loose on a gullible public. It was against this class, more than against the travelling fakir, who boldly sold his nostrum on the streets and court-greens, that public protection was needed, inasmuch as the average nostrum is more efficacious from the talismanic charm of secrecy in its preparation than from the possession of any drug, good or bad, in its composition. It is, indeed, a sad commentary on the weakness of human nature that people who are the most exacting as to securing the best of everything in business details, even to the best blacksmiths for shoeing their horses, will blindly follow the advice of charlatans in dealing with the infirmities of their own bodies.

In view of this indifferent and uneducated condition of the public mind on these important matters, the few faithful members of the Medical Societies of Virginia and of North Carolina, who, though repulsed for many years,

kept up their fight for a medical law, should congratulate themselves and should merit the eternal gratitude of the people of the two States for having secured in 1884-5 the passage of laws regulating the practice of medicine and surgery by constituting a State Board of Medical Examiners—the first in the United States, even though their powers were somewhat limited.

The position of member of such a board is a responsible and trying one; the member is an officer for the faithful execution of the law, and at the same time he is called on to obey the unwritten law of discretion, which is as strong, though frequently somewhat conflicting with, as the written one. So well did the Societies select the members, that the successful working of the law is due to them; whereas, they might have fixed the seal of public condemnation not only on medical laws in these two States, but in all the States, for it was but an experiment watched by them all.

As a licentiate of one of the first examinations by the Virginia Board—as a member of committee to get the law amended by the Legislature, as a member of the Board for five years, and as the patron of the present law while a member of the Virginia Legislature—I can testify to the improvement in the *personnel*, in the preliminary education, and in the professional education of those who come before the Board. The people of Virginia now value it as one of the most prized of State institutions; and I am informed that the same may be said of the Medical Examining Board of North Carolina. The first examinations revealed a deplorable state of affairs. To quote an extract from a recent paper of Dr. Landon B. Edwards before the Medical and Surgical Society of the District of Columbia: “The results of the earlier examinations were simply alarming—over 50 per cent. of graduates of reputable medical colleges failed to pass satisfactory examinations, although the markings were extremely liberal, and required standard only 75 per cent.” I know myself that for several years the papers turned in have been for the most part models of neatness and orthography, whereas, in 1885-6-7, many graduates of reputable colleges turned in papers in which the ignorance of medicine and surgery was conspicuously equalled by bad spelling and most flagrant violations of most common rules of English grammar. Some good papers, as far as the knowledge of the questions was concerned, were greatly damaged in this way.

The good work of our boards has, like the scriptural grain of mustard seed, extended the

branches of its influence into nearly all of the other States; so a State which cannot now boast of a medical examining board of some form, is indeed in the backwoods of provincialism. The boards are working with a common purpose of reaching a uniform standard of grade in examinations. The medical colleges, for the most part, have taken advantage of the experience gained from the boards, and have formed an organization known as the Association of American Medical Colleges, which requires a rigid examination of all matriculates on the academic branches, and a four-year course of study. Courses in chemical, bacteriological and physiological laboratories are compulsory parts of the course. Reference to the records of the Virginia Board shows that colleges whose percentage of rejected graduates on the early examinations was as high as 50 per cent., now show a reduction to 15 per cent. or 20 per cent.

Although so much has been accomplished within the last fifteen years, there is much yet to be done ere the boards reach the state of perfection for which we all most devoutly wish.

The medical societies should remember at all times that the boards are creatures of the societies, and they should work for their betterment and in every way uphold their hands. They should see that their best men are selected for members of the Board, and see that no one is elected who does not work for and keep well up with the medical society of his State.

In many remote localities, the law is being openly violated by men who disregard and defy the law, or who evade it under some subterfuge. Now, the boards have neither time nor money necessary to visit the neighborhoods and conduct a personal prosecution of the offenders; but it is a duty which every lawful physician owes the profession and the people to bring these cases to the attention of the officers of the law, and to aid in punishing them, as well as in purging the locality of such cattle.

There is a highly objectionable feature in our laws which permits undergraduates to appear before the boards, and the profession should take steps to have the law so amended that each and every applicant must present a diploma from a reputable college before being allowed to commence the examination. Some claim to be graduates of schools which they may never have seen, and thereby an injustice is done the schools; while a great many register as undergraduates, usually second course students, who wish to get the dread of an examination from their minds, and to whom

failure and repeated attempts to pass the board do not mean the same as to a graduate. A large percentage of failures occur in this way, and an enormous amount of work and worry is entailed on the Board. I am certain the relation of the designers of the law, was that only those should be examined who are ready and intend to enter practice; and the law should certainly be made to read that way.

A question which has been much agitated in the different State Boards, and in the National Conference of Medical Examining Boards, has been the one of recognition of certificates of other boards, and as yet nothing has been accomplished along this line. Some object to it because of the lack of uniformity of standard of examinations by different boards; while others have opposed it for constitutional and legal reasons. I, myself, think that at present it would not be proper for such a general arrangement; but as far as Virginia and North Carolina are concerned, there are especial reasons and conditions which suggest such an arrangement.

In the first place, our laws are practically and essentially the same; a careful comparison of the results of the examinations for many years tends to convince most any one of the equality in standard of the two boards. While I am not a lawyer, yet I am thoroughly familiar with the Virginia law—having introduced it in the Legislature; and I have also studied the medical laws of North Carolina, and fail to find one line in either which will cause even the strictest constructionist to contend that the by-laws cannot be so arranged that special courtesies can be extended licentiates of one board by the other.

Of the more than six hundred medical students, who annually attend the three schools of Virginia, a large percentage is represented by North Carolinians; and all three schools have honored themselves by calling distinguished North Carolinians to chairs in each. Many North Carolina graduates remain with us and become adopted sons of the Old Dominion, while as many Virginians are induced to become citizens of the old North State, by the seductive influences of your hospitality and enterprises. Between no other States of the Union is there greater social, business and professional intercourse than between these two.

I hope that the two boards may be brought in closer touch, and that in a short while the certificates of one will be recognized by the other, and that they may continue to work for the perfection of the great work in which they have so long taken the lead.

LITHÆMIA.*

By JOHN N. UPSHUR, M. D., Richmond, Va.,

Professor of the Practice of Medicine in the Medical College of Virginia.

Clinical observation, and personal experience for several years, have impressed upon me the importance of this subject. Gout, when frankly declared in a joint, is very easy of diagnosis, and clear in its therapy. But when the subject of the gouty diathesis rarely or never has a joint involved, and the lithæmic manifestations, indicative of excess of uric acid in the system, declared by phenomena in the skin, mucous membrane, viscera, ears or eyes, the diagnosis becomes more complicated, and consequently the indications for treatment more vague and embarrassed.

A factor in the manifestation of the phenomena above indicated is *age*. We find that when the subject has attained middle life, when all nutritive processes have reached their climax, especially if there be heredity as a predisposing cause, mental strain, worry and anxiety, I am confident, both as the result of my personal experience, as well as clinical observation, that some subjects have combined two heredities—*tubercular and gouty*. The first shows itself in early life. Some tubercular joint affection, or incipient tuberculosis of the lungs, overcome by an improved environment, brings about the substitution of hyper-nutrition for a condition of malnutrition, and the gouty diathesis overrides and stamps out the tubercular. We find in the subject increase in weight, improved digestive and assimilative power, improved energy and greater capacity for work. We are surprised to see the prognosis of early demise changed radically to a state in which the subject has a first class chance of living out his expectancy. I would not be understood to take position as a skeptic as to the causative and infectious nature of the tubercle bacillus; but I ask you to ponder the question of the anti-germinal, yes, fatal effect upon the tubercular germs of excess of uric acid in the system, finding, as it does, elimination from the body by every emunctory channel, and mucous surface.

Of the *active causes* of lithæmic manifestations, various articles of diet must bear the onus, and this causation varies with different subjects, manifesting itself in various ways. The general proposition is that sweets and acids, wines and malt liquors, excess of various

kinds of nitrogenous foods—all make themselves known in symptoms ranging from simple discomfort to agonizing pain. Strawberries or an orange, a raw tomato, or even a little tomato in soup, declare their effects by a violent erythema on the hands or feet or face, itching of the nose, or a furious and tormenting urticaria within a few hours after digestion—sometimes only recognized by a sense of tension or swelling in the fingers, a burning sensation in the toes, or the sense of the shoe being too tight. At other times we find the effete material seeking elimination from the system by the skin, and a furious and intractable eczema, moist and acute in its manifestations. I treated a lady for an obstinate attack of gout in the left foot and ankle. The same time the next year she developed an obstinate attack of acute (moist) eczema in her left arm, resistant to treatment both local and general. A full dose of pilocarpine at night resulted in the most profound exacerbation of the eczema next day, so that she was unable to grasp anything with that hand, and the arm was so swollen that it was tense and hard and very painful, and the itching was beyond endurance. Great comfort was given by the application of a strong solution of bicarbonate of soda in cherry laurel water; the swelling subsided, the itching and pain were relieved, and the arm was almost completely well in forty-eight hours. I believe this eczema was lithæmic, and the pilocarpine temporarily aggravated the condition by a largely increased amount of uric acid elimination.

Persistent and distressing itching of the nose will sometimes be the only indication of lithæmia. The digestive tract is a frequent seat of the uric acid eliminative irritation. Some of the cases of acid dyspepsia that came under observation are clearly traceable to elimination of uric acid, and are not responsive to ordinary remedies. The burning is more intense, there is a sense of glow in the stomach, alternating at times with nausea, and accompanied by areas of itching, flying about from scalp to nose or face, and on the upper and lower extremities. The subject will sometimes awake in the morning with a nasty, pasty taste in the mouth, an urgent desire to go to stool, and will have frequent copious and very acid actions, amounting to fifteen or twenty in the following twenty-four hours—scalding, burning, and very exhausting, with a sense of faintness or goneness. At the same time the urine is scalding, scanty, high-colored, and very acid. The condition seems to relieve itself, the bowels becoming quiet so soon as eliminative action is

* Presented to the Tri-State Medical Society of Virginia and the Carolinas, at the meeting held at Charlotte, N. C., January 18, 19, 20, 1899.

complete. Or the manifestation may be in the form of acute pain in the bowels, most commonly located in the colon, sigmoid flexure, pylorus, or some part of the colon tract, coming on with a sense of depression. Sometimes agonizing cardialgia is succeeded by nausea, the pain then becoming fixed in one of the points. The cæcum is its most common location; some cases very closely simulate appendicitis. The pain is burning, rending in its character, with a sense of unendurance. It must be felt to be appreciated. The writer has had four attacks of this nature, two being in the cæcum, one in the sigmoid, and one in the pylorus. It felt as though a mass of hot live coals had been put at the spot, reinforced by a free dose of mustard.

After the agony of the early part of the attack has been controlled, the sense of soreness extending over the whole abdomen is so great as to make even the act of changing one's position in bed intensely painful. On one occasion, for a week after the attack, there was the sensation as though a knife was run into the abdomen, when any jolt came; the rolling of the carriage over the street crossing was almost insupportable. In conjunction with the last and most severe attack located in the cæcum, a retino-choroiditis developed in the left eye, making itself felt first by a sensation as if a grain of sand was in the eye, followed by pain and soreness in the ball, and loss of sight up to the point of being unable to recognize any object other than light. The eye was completely restored in ten days after taking a mixture of strychnine, dilute muriatic acid, and pepsin. I tried the experiment of a bottle of beer on going to bed at night, and awoke next morning with a nasty taste in my mouth, a crawling, itching sensation of the skin on various parts of the body, and painful ringing in the ears.

This ringing in the ears is one of the most common manifestations of lithæmia, with or without headache. This latter is dull, persistent, with more or less confusion of ideas, though Haig says its duration is under twenty-four hours. I fully agree as to the other characteristics of it which he describes. My experience of blurred or indistinct vision in connection with these headaches has been similar to his. Nor is this all: Interference, with normal metabolism, is a not infrequent cause of lithæmic manifestations. Anything that causes over-nervous strain, business cares or worries, anxiety about a patient, over-work, reacting on the stomach through its nervous supply, interfering primarily with digestion and subsequently

with metabolism, will be productive of as well defined evidence of lithæmia as any other one thing.

Very commonly associated will be a *torpid liver*. This organ has failed to dispose of the effete material that should be burnt off. Uric acid accumulates in it, the blood becomes too acid and the undefinable lithæmic symptoms show themselves. Nor will ordinary alkaline remedies bring relief, until the liver and portal circulation have been unloaded by a sufficient dose of calomel; and thus with these conditions described, is it strange we see gouty kidney, atheromatous degenerations of the blood vessels, the development of mental depression, or organic degenerative change in the brain.

Time does not allow for me to go into a more detailed discussion of this subject. You will find it all elaborately treated with the hand of a master by Haig in his work, "*Uric Acid in the Causation of Diseases*." But in justice to myself I must say, my own clinical observation and personal experience had pointed out to me these clinical facts which I have so imperfectly detailed.

Whether these symptoms are due to excess of uric acid in the system, or whether, as Haig claims, this excess is relative from an interference with the balance, I cannot say. He says a certain amount of uric acid is taken in daily with our food, a certain amount generated in the system; that, if the balance is interfered with and not so much excreted as has been accumulated in the organism, the blood becomes acid, fails to be a solvent, and thus uric acid is left in the tissue joints or deposited in the liver, spleen or kidneys. Just as soon as the blood becomes alkalized by soda phosphate or the salicylates, it becomes a solvent for the uric acid; it is taken up and excreted from the system. I can testify to the efficiency of soda phosphate and the salicylates, though the latter are apt to disagree with the stomach. Haig says, "and lithia, . . . though said to be a beautiful solvent of uric acid in the test tube, yet when given to the human subject by the mouth, never reaches the uric acid at all, because it forms at once an insoluble compound with the phosphate of soda in the blood, thus removing from that fluid one of the natural solvents of uric acid, and diminishing its power of holding uric acid in solution." This, if it be true, is a terrible blow to all of the varied lithia waters that have been so much vaunted as remedial in every variety of lithæmia or gout, so far as the lithia salt held in solution is concerned. That water, freely drunk, does much good in the process of elimination, there can be

no doubt, but it is because as a solvent it takes out of the system effete matters. Beale says, "water freely drunk goes into the cracks and crannies of the system and washes out the cobwebs."

In conclusion, the *treatment of lithæmia* consists chiefly in dijetic regulation; and this must depend on each individual case. The value of sodium phosphate, I have already alluded to. The saline cathartics, in full-blooded subjects, the purgative waters, especially the Rubinat Condol, the bitter tonics, especially *nux vomica*, and the infusion of cinchona, are all useful. Strychnia is valuable because it not only improves nervous conditions and digestive processes, but is also eliminative, by its quickening the performance of function in the emunctories. "It causes marked rise in urinary acidity, and cures headache." (Haig). Exercise is of great importance—walking, horseback, or bicycle. I am inclined to the opinion that the administration of the salicylates should be preceded by a course of pure alkali, as potass. bicarb., until the urine is neutral, and because it makes the salicylates more efficient and diminishes the danger of a subsequent endocarditis, and valvular damage.

In *articles of diet*, I would especially mention as useful the free use of milk. Taken hot, it improves digestion, acts as a stimulant to nutritive processes, and predisposes to alkalinity of the blood. Tea, I regard as more harmful than coffee. Its tannin constituent tends to gastric derangement, and thus secondarily interferes with metabolism. Coffee has a tendency to the kidneys, and is, in some measure, eliminative. I would condemn especially, wines, malt liquors, etc., believing that whiskey is least harmful; but even it should not be taken unless there is some factor of debility—general or digestive—which demands it, and even then it should be in very small quantity.

Time does not admit that I should go more fully into the discussion of this subject, but if what I have said has excited your interest and given you food for thought, I am amply repaid.

210 W. Grace St.

Ethol,

Introduced by Battle & Co., is receiving good reports. Dr. A. L. Stiers, Dawson, Neb., had good effect from its use—teaspoonful six times daily, and injected in a painful wound produced by a hedge-thorn. A cloth saturated with ethol was also laid over the wound. In four days, the pain, swelling and inflammation had all gone, the wound healed, and the patient was able to do her work.

FIFTY YEARS IN MEDICINE.*

By CLARA MARSHALL, M. D., Philadelphia, Pa.,

Dean of the Woman's Medical College of Pennsylvania, etc.

Madam President and Members of the National American Woman's Suffrage Association.—January 23, 1899, not quite a year from to-day, will mark the passage of the half century since Elizabeth Blackwell, whose name is to be mentioned with admiration and all honor, received her medical degree; and although there have been isolated and conspicuous examples from very early times, of women who were noted for their medical learning and skill, yet to the courageous and successful efforts of this noble pioneer is due the organized education of women in medicine in America.

That Elizabeth Blackwell knocked at the doors of the prominent schools of Philadelphia and New York without success, and subsequently applied to twelve of the smaller schools of the Northern States, is a matter of history. It is interesting to note that her final admission to the medical department of Geneva University, N. Y., was due, not to the willingness of the faculty to receive her, but to their unwillingness to face the point at issue by a blank refusal; they referred the question to the students with a result very much like that in a game of draughts in which the unwary player is worsted by his too confident reliance upon his certainty as to how his opponent will move. The following published account by a classmate of Dr. Blackwell, will show what happened to the unwary faculty:

"Some weeks after the course began, the dean appeared before the class with a letter in his hand, which he craved the indulgence of the students to be allowed to read.

"Anticipation was extreme when he announced that it contained the most extraordinary request which had ever been made to the faculty. The letter was written by a physician of Philadelphia, who requested the faculty to admit as a student a lady who was studying medicine in his office. This letter further stated that she had been refused admission by several medical colleges; but, as this institution was in the country, he thought it more likely to be free from prejudice against a woman medical student. The dean stated that the faculty had decided to leave the matter in the hands of the class, with this understanding, that if *any single student objected to her admission, a negative reply would be returned.* It subsequently appeared

* Read before the National American Woman's Suffrage Association, February 16, 1898.

that the faculty did not intend to admit her, but wished to escape direct refusal by referring the question to the class, with a proviso which, it was believed, would necessarily exclude her.

"But the whole affair assumed the most ludicrous aspect to the class, and the announcement was received with the most uproarious demonstrations of favor. A meeting was called for the evening, which was attended by every member. The resolution approving the admission of the lady was sustained by a number of the most extravagant speeches, which were enthusiastically cheered.

"The vote was finally taken, with what seemed to be one unanimous yell, 'Yea!' When the negative was called, a single voice was heard uttering a timid 'No.'

"The scene that followed passes description. A general rush was made for the corner of the room which emitted the voice, and the recalcitrant member was only too glad to acknowledge his error and record his vote in the affirmative. The faculty received the decision of the class with evident disfavor, and returned an answer admitting the lady student."

But there was, on the part of either the students or the faculty, a falling from grace, for Elizabeth Blackwell's sister Emily applied in vain for admission, and was finally graduated in 1852 at the Cleveland Medical College in Ohio. From the same institution was graduated Marie Zakrzewska, who, previous to her arrival in this country, had been educated in Germany, and who performed most distinguished service in behalf of her sex; for she was an enthusiastic co worker with the Drs. Blackwell in establishing the New York Infirmary for Women and Children, the first institution of the kind in this country. Dr. Zakrzewska was afterward invited to lecture on midwifery in the Female Medical School at Boston, where she at once turned her attention to securing *clinical* instruction for her students; this led to the founding of the New England Hospital for Women and Children.*

The difficulty of gaining for women admission to schools already established, led to the founding of medical colleges for their exclusive education.

Among these, may be mentioned as first in chronological order, the Women's Medical College of Pennsylvania—the charter for which was granted March 11, 1850—and its first session was opened in October of the same year.

The following extract from remarks made by a corporator on the occasion of one of the an-

nual commencements, will throw some light upon the early history of this struggling institution:

"The college building consisted of a few inconspicuous rooms, to be reached only by a dark and narrow passage-way from Arch street, near Seventh street, as if this secluded spot were necessary for security from the unwelcome attention of chivalric (?) medical students of the other colleges.

"With two noble exceptions, the Rev. Albert Barnes and the Rev. Dr. E. L. Morgan, not an evangelical clergyman could be made to sit on the platform on such occasions as this. With the exception of a few annual donations from interested friends, there was not a dollar in the treasury for compensation of professors or illustration of lectures; not a medical journal in the land would publish our advertisement, or do other than grossly misrepresent the college; no hospital could admit our students for clinical advantages without danger of their being insulted by both professors and students. So intense was the feeling on the part of the profession against the men who were willing to accept professorships in the school, or give instruction in medicine to women, that it was with difficulty that good teachers could be obtained."

In 1848, there was organized in Boston a society for the education of women in midwifery, and in April, 1850 (one month after the date of the charter of the Philadelphia school), it was incorporated under the name of the "Female Education Society," but it was not until 1856, that a new charter was taken out, which at last conferred the right to *appoint a faculty* and to *confer degrees*; and with the new charter was assumed a new name—"The New England Female Medical College." This school, after a brief existence, merged in the School of Medicine of the Boston University. In 1865, was founded the Woman's Medical College of the New York Infirmary, which was an outgrowth of the Infirmary for Women and Children already established. From the very beginning, the aims of this institution were high, the desire of the faculty being not so much to swell the number of its alumnae, as to graduate a few women who should be thoroughly prepared, for their place in the medical profession.

In 1869, a medical school for women (the Woman's Medical College of Chicago) was founded by Dr. Mary H. Thompson, and later, 1882, the Woman's Medical College of Baltimore came into corporate existence.

During this time, the schools of the West, one by one, began to open their doors to women,

* This Hospital was incorporated July 12, 1863.

conspicuous among them being the University of Michigan; but the older Eastern universities still maintained their conservative attitude.

It remained for the women of the country, through their united efforts, in which the generous pecuniary assistance offered by Miss Mary Garrett, of Baltimore, played a conspicuous part, to secure from the date of its opening in 1893, the admission of women to the medical department of the Johns Hopkins University. This school, with its rich endowment, with its rigorous entrance requirements, and its thoroughly scientific methods of instruction, not only offers an opportunity to test the influence upon women of technical training in a great university, but it furnishes for us all a valuable study in co education.

The cause which led to the establishment of separate medical schools for women, was operative in preventing their success—viz.: professional ostracism, which showed itself in their exclusion from hospital privileges and from membership in medical societies. Thrown back upon their own resources, women again sought a remedy, and in addition to the establishment of schools for didactic instruction, hospitals were founded for the treatment of women and children. Also, but to a much less degree, societies of women were formed for the discussion of medical topics.

To go back to the troublous early times, of which many women now living are able to say "all of which I saw and a part of which I was," let me recall an incident of November 6, 1869. Permission having been given by the managers of the Pennsylvania Hospital (in Philadelphia) for attendance upon the clinical lectures of that institution, about thirty women students were present on that day. The conduct of the male students was such as to raise a storm of public indignation in Philadelphia and other cities, and, as a consequence, the subject of clinical instruction to "mixed" classes was discussed *in extenso* in the public press. The following extract from one of the leading newspapers of Philadelphia, will serve to show the general tenor of newspaper comment at that time:

"The students of the male colleges, knowing that the ladies would be present, turned out several hundred strong, with the design of expressing their disapproval of the action of the managers of the hospital particularly, and of the admission of women to the medical profession generally.

"When the ladies entered the amphitheatre, they were greeted with yells, hisses, 'cater-

waulings,' mock applause, offensive remarks upon personal appearance, etc.

"When the uproar seemed to be at its height, Wm. Biddle appeared, accompanied by one of his colleagues, and informed these rowdies that he came in behalf of the managers to say that the ladies were there by and with their consent, and that they should be protected from insult, and any man detected in any of this insulting, uproarious behavior, should have his ticket withdrawn. When they began to hiss, he calmly said: 'Oh! I don't care for your hisses.' He begged them to remember their characters as gentlemen, and he told them that he would stay to see how they behaved. For the first hour, there was the semblance of order. During the last hour, missiles of paper, tinfoil, tobacco-quids, etc., were thrown upon the ladies, while some of these men (?) defiled the dresses of the ladies near them with tobacco-juice.

"It is but just to the ladies to say, that they maintained their position as scientific students by a quiet and modest demeanor."

To quote from the same paper:

"Ranging themselves in line, these gallant gentlemen assailed the young ladies as they passed out with insolent and offensive language, and then followed them into the street, where the whole gang with the fluency of long practice, joined in insulting them. It was an action which deprived every man in that crowd of all claim to the title of gentleman."

But opposition to the attendance of women at the clinics of the Pennsylvania Hospital was not confined to students. A meeting was convened at the University of Pennsylvania, to consider the subject of clinical instruction to mixed classes of male and female students of medicine, when a remonstrance was unanimously adopted and signed by the faculties of the University of Pennsylvania, of Jefferson Medical College, by the medical staffs of the various hospitals of Philadelphia, and by the members of the profession at large.

This was succeeded by a counter blast from the faculty of the Woman's Medical College of Pennsylvania—all of which, with interesting comments, appeared in full in the public prints. The managers of the Pennsylvania Hospital (in accordance with the expressed will of the contributors) having maintained their original attitude toward women students, they received and *accepted* the resignation from the staff of one of the greatest American surgeons, Dr. D. Hayes

Agnew. It is interesting to note in this connection, that Dr. Agnew, six years after his resignation, was invited by the managers of the Pennsylvania Hospital to resume his place on the staff, that his letter of acceptance contains no reference to the vexed question of women students, and that he lectured to a mixed class during this second connection with the hospital whenever women chose to attend his clinics. In the latter part of his life, Dr. Agnew accepted invitations to consult with women physicians.

In recognition of the need for clinical instruction, there was founded, in 1854, the New York Infirmary for Women and Children; in 1861, through the efforts of Dr. Ann Preston, the Woman's Hospital of Philadelphia; in 1863, the New England Hospital for Women and Children was incorporated; in 1865, a hospital for women, founded by Dr. Mary H. Thompson, was opened in Chicago; in 1875, a woman's hospital was opened in San Francisco; and another, in Minneapolis, in 1892. These still constitute the six most important hospitals under the care of women physicians in this country.

In the struggle for clinical opportunities and for professional recognition, women have been aided by large minded, generous hearted men, and prominent among them, should be mentioned the late Dr. Hiram Corson, of Montgomery county, Pennsylvania, whose efforts during the latter years of a very long and active life, were especially directed toward obtaining such legislative action as would compel the appointment of a chief woman physician in the women's department of every hospital for the insane in Pennsylvania.

Dr. Corson succeeded only in securing the passage of a law *permitting* such appointments. But in the case of the particular hospital of which he was trustee, his wish was fulfilled when, on July 12, 1880, Dr. Alice Bennett entered upon her duties as chief resident physician of the women's department of the State Hospital for the Insane at Norristown.

The distinctly original methods in the treatment of the insane introduced by Dr. Bennett—methods the merits of which have been fully recognized by the medical profession—could not have been introduced at all by an assistant, for there was needed not only the originality to *suggest*, but the *authority to execute*.

This hospital is still the only one (as far as known to the writer) in which women insane patients are under the exclusive care of a woman physician.

Colleges for women having been founded,

the admission to a number of medical schools already established having been obtained, women graduates in medicine, with the support of a small minority of medical men, naturally turned their attention toward securing membership in medical societies; and here again the contest was long and fierce.

In 1873, Dr. Mary Putnam became a member of the New York County Medical Society; in 1874, she was sent as a delegate to the State Medical Society, meeting in Albany. In the meantime, Kansas and Iowa State societies admitted women in 1872; Vermont fell into line in 1874; Maine and Ohio in 1875; California and Indiana in 1876; New Hampshire in 1878; Minnesota and Massachusetts in 1879; Connecticut in 1880; Pennsylvania in 1881. Nowhere was the resistance to the onward march of the medical women more determined and more persistent than in the conservative city of Philadelphia. In November, 1858, the Board of Censors of the Philadelphia County Medical Society reported that "they would recommend the members of the regular profession to withhold from the faculties and graduates of female medical colleges all countenance and support; and that they cannot, consistently with sound medical ethics, consult or hold professional medical intercourse with their professors or *alumnæ*." This action having been sustained by the State Society, a protest was published by the officers of the Woman's Medical College of Pennsylvania; and thus began an extraordinary series of papers from the same sources, the most remarkable of all being a reply by Dr. Ann Preston, Dean of the Faculty of the Woman's College, to a manifesto of the Philadelphia County Medical Society. The document by Dr. Preston was logical, eloquent, womanly, and it should have been convincing—and it *was* convincing—in the fullness of time—*just twenty-one years!*

In 1871, the question of the admission of delegates from women's colleges came up at the meeting of the American Medical Association, held in San Francisco, to which meeting, Dr. Chas. Herman Thomas, of the Woman's Medical College of Pennsylvania, had been sent as a delegate. The proceedings, it is needless to remark, were much enlivened by the discussion of this vexed question, and the readers of the daily papers of San Francisco found their columns greatly enriched thereby.

This meeting was fruitful of good results. The delegate was admitted in the ordinary course of routine business by the Committee of Arrangements, composed of residents of San Francisco, who had never had the woman

question brought prominently before them. There was probably not a majority of the convention in favor of seating the delegate, but it was shown by actual ballot that there was not a majority in favor of expelling him after he had been admitted, even though by inadvertence.

At the next meeting of the American Medical Association, its constitution was so amended as to prevent the possibility of a recurrence of the discussion of the question which had brought dissension the year previous, by excluding college representation in the Society. As the members of the faculty of the Woman's College in Philadelphia were not at that time admitted to the County Society, this action shut them out from the American Association without affecting the faculties of men's colleges, who were, of course, members of their respective county societies.

When, in 1876, the first woman delegate, Dr. Sarah Hackett Stevenson, of Illinois, was received without question to membership in the American Medical Association, then meeting in Philadelphia, it seemed somewhat of an anomaly that women long and well known to the profession and to the public, as professors in the Woman's College and as successful practitioners, were excluded.

Alumnæ of the college resident in Montgomery county, the home of Dr. Hiram Corson, were also at that time members of the County Society, and, therefore, eligible to membership in both the State Society and the American Association, while some members of the faculty of the college, whose names gave validity to their diplomas, were ineligible.

Time forbids me to tell the history of the movement in foreign lands—in Switzerland, which took the initiative in 1864, of the graduation of Miss Garrett, an Englishwoman, from the School of Medicine in Paris in 1870, of the closely-fought contest in England, and the still warmer battle in Scotland, the last always associated with the name of Sophia Jex Blake, the courageous!!

Permit me to summarize briefly the present status of the American woman physician:

First. *The medical woman in literature.*—In the course of preparation of an historical outline of the Philadelphia school, which has graduated 842 women, I endeavored to find a fitting reply to the oft-repeated criticism, that women have contributed little to medical literature; (and permit me to say just here, by way of apology, that while recognizing the vast amount of work done by other schools and in other States, in the short time at command for

the preparation of this paper, I have been obliged to draw illustrations from sources most readily accessible). I have succeeded in collecting 596 titles of medical essays by our alumnæ, and when it is remembered that the majority of these papers were written during the last half of the period under consideration, one may form some idea of what may be expected during the next fifty years.

There are, besides, many individual examples, both at home and abroad, of medical prize essays gained in competition with men, as the bronze medal obtained by Mary Putnam's graduation thesis at the School of Medicine in Paris, and the Boylston Prize Essay by the same writer.

Second. *Competitive examination for hospital positions, examinations in co-educational schools, for the medical degree, and before State Medical Examining Boards*

Women have also shown evidence of the quality of their preparation for the practice of the healing art by their success in examinations in which they have been brought into direct competition with the other sex, either in examinations for the medical degree, or before State examining boards, or for hospital appointments.

In 1875, Rebecca Hanna took the first prize in surgical anatomy at the Iowa State University (co-educational).*

Miss Morrison, of San Francisco, took the highest honors of her class in the medical department of the University of California (co-educational), in the largest class which had ever graduated at that institution.*

In 1883, the examinations for the position of interne at the great city hospital, known as the Philadelphia Hospital, were opened to women, and the only woman who applied stood sixth in a class of thirty-seven, and hence was one of the twelve recommended for appointment. Since that time, a woman has thrice headed the list of successful candidates drawn from the great schools of Philadelphia and elsewhere.

At the first examination held by the State Board of Maryland in 1893, the highest percentage was made by the only woman presenting herself. In September, 1894, at the State examination in New Jersey, a woman took the highest rank. In September, 1896, 331 candidates presented themselves for examination before the State Board of Pennsylvania. Among the several medical schools from which the candidates received their diplomas, there

*"The Entrance of Woman Into Medicine." By J. C. Reeve, M. D. 1895.

were two with no failures to report—the University of Pennsylvania (which does not admit women to its medical department), and the Woman's Medical College of Pennsylvania.

Third. *Hospital work, including grave operative procedures in Surgery and Obstetrics.*

But it has been said, "Oh, yes; women can cram for examinations, but when it comes to actual practice they fail. Women are no surgeons." Let me quote from the last annual report of three hospitals under the medical care of women, (and here, again, statistics of similar interest could no doubt be obtained from the Pacific Slope, from Minneapolis, from Chicago, and elsewhere):

New England Hospital for Women and Children.

Number of surgical operations..... 295

New York Infirmary for Women and Children.

Number of surgical operations..... 297

Woman's Hospital of Philadelphia.

Number of surgical operations.. 992

This gives a sum total of operations in these three hospitals for one year of 1,584, including many of the *gravest procedures known to surgery.*

A whole volume might be devoted to the work of the medical woman in foreign missionary fields, among the many millions of suffering women in India, Burmah, China, Japan, and Turkey, where custom, inexorable, has prevented them from receiving the benefit of medical science and skill through men. Not only has the woman medical missionary distinguished herself by the excellence of her professional achievements, but the tax upon time, thought and strength is such as to cause her to appear to be a very miracle of physical endurance.

Fourth. *Character of the work in private practice.*

As far as the facts are obtainable, it may be stated, that while in country neighborhoods, and in small towns, the practice of women physicians is general, obstetrics and diseases of women predominating, in the cities it is largely made up of the above-named specialties. In this connection, it is to be borne in mind that no branch of medicine requires a higher degree of self-possession and promptness in the selection and application of scientific methods than modern obstetrical practice; nor does any department of surgery probably present graver difficulties than the operations included in the practice of gynecology.

Fifth. *Pecuniary status of the woman physician.*

Here it is not necessary to raise the cry of "equal wages for equal work," for the woman doctor of average ability had a larger income than the woman teacher (or even the man teacher) of average ability. The woman of more than average ability had a larger income than the woman college professor; there are, besides, the exceptional women, as there are the exceptional men, whose incomes reach into the many thousands.

Sixth. *Professional recognition.*

This, as already indicated, has been gradual, and it is not yet complete. I should like to mention just one incident in illustration of the mutability of human opinions. A distinguished physician, one who has been styled the "Nestor of American Surgery," a statue to whose memory was unveiled not so very long ago in this city, was at one time a bitter opponent to the entrance of women into the medical profession. He was quoted as saying that the class at a certain Woman's College* was made up of "wornout school teachers and disappointed old maids." In 1877, as President of the Association of American Medical Colleges, he treated the only woman delegate (from the same college) with distinguished courtesy, and he subsequently occupied a seat with the corporators and faculty on the platform at several of its annual commencements.

Have we, then, reached the millennium? By no means. We need a greater number of well educated women—women whose education, *preparatory* to the study of medicine, has been of the broadest. We need more women of *wealth*, who are willing, not to found new institutions, but to endow the literary institutions already existing for the education of our own sex; and we need women of wealth to *endow medical colleges for women*, in order that they may be enabled not only to improve their curricula, but that they may afford to exclude from their entering class all but the thoroughly well prepared.

When these needs are met, we may expect that the woman doctor will, with intelligence and public spirit, enter into those problems of *preventive medicine* which so affect the welfare of the race—the purification of water, of food, of morals; the cleanliness of our streets, the hygiene of the school-room and the home—and *she will succeed*, just as she has already succeeded in the domain of curative medicine and surgery.

With the moral force of an Ann Preston, with the courage, devotion and mental poise of an Elizabeth Blackwell; with the learning

* Woman's Medical College of Pennsylvania.

and scientific insight of a Mary Putnam Jacobi; with the public spirit, the patriotism, which should exist in the heart of every woman—may this, the ideal medical woman of the future, be duplicated many times!

CONTUSION OF EYE—CONTRE COUP EFFECT.

By ALFRED C. PALMER, M. D., Richmond, Va.

Charles M., age 14 years, came to my office by direction of Dr. M. D. Hoge, with the following brief history: About three months previous, he was fitting some machinery at the Richmond Cedar Works, when he received a blow in the left eye from a chip of steel about the size of a match head. Almost immediately, there followed a contusion of the conjunctiva near the internal canthus. He consulted at once Dr. Hoge, surgeon for the works, who applied some astringent wash, and in the course of a short time the redness of the mucous membrane cleared. The pupillary condition seemed abnormal, and it was for this that the doctor sent him to me for special treatment.

I found, upon examination, all of the external structures absolutely normal, all media perfectly clear, but a pupil in extreme dilatation not in the least responsive to light. The iris formed a narrow band at the sclero-corneal margin, with no points of adhesion, giving a perfectly round pupil.

With this condition, the examination of the fundus was a matter of comparative ease.

By the direct method, the first noticeable fact was a fine black line extending in a direct course from the inner side of the optic disc to the nasal side of the vitreous chamber. This line seemed not to lie directly on the retinal surface, but anterior to it. Following this line from within outward as I approached the optic nerve, I found a condition which I have tried to represent in the accompanying drawing.

The black spot marked R, I take to be a rupture in a blood vessel, which has elevated a portion of the retina, which I have tried to represent by the semi-transparent white space, somewhat triangular in shape.

Why this condition should exist in the posterior aspect of the globe from an injury received on its anterior surface, is a very interesting point. It is quite convincing to my mind that it is due to the so-called "contre coup." As a blow on one side of the cranium sometimes causes a fracture on the opposite side, the same condition may come about in the eyeball.

If the history of this case is correct, the retinal disturbance is not at a point directly opposite to the point receiving the blow. This result may be due to two causes—1. As I have intimated, an incorrect history; and 2. To the fact that the currents of force, in passing around the globe, in opposite direction, one met with more resistance than the other, necessarily retarding its progress.

Another point of interest in this case is the entire absence of any disturbance of the refractive conditions. The vision is absolutely normal, both for distance and near points. Naturally, with a pupil distended to the point at which we find this one, we would look for want of accommodation for reading distance; nothing of the kind is present; the patient reads No. 1 Jaegers with ease, and his distance vision is $\frac{20}{20}$.

The absence of any interference in the formation of the retinal image is due to the fact that the injury is on the opposite side of the disc from the fovea centralis—a fortunate circumstance for the patient.

The pupil is readily responsive to the physiological effects of eserine instillations.

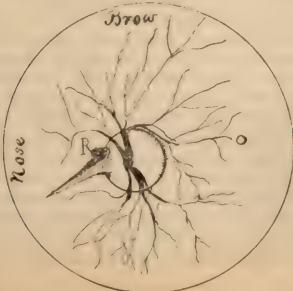
13 West Franklin Street.

PERFORATING ULCER OF DUODENUM— OPERATION—RECOVERY.*

By HUGH M. TAYLOR, M. D., Richmond, Va.,

Professor of Practice of Surgery, University College of Medicine;
Surgeon to Virginia Hospital, etc.

Fortunately, this is a rare disease. We say fortunately, because its diagnosis is conceded to be very difficult, and in many instances impossible; and because, as is the case in many



* Read before the First Annual Session of the Tri-State Medical Association of Virginia and the Carolinas, Jan. 19th, 1899.

acute gastro-enteric lesions, life can only be saved by early surgical intervention.

It was my privilege recently to meet with a case in which not only were the difficulties in making a diagnosis impressed, but equally so was the imperative need of prompt operation illustrated. The intra abdominal lesion was not, at first, diagnosed as one of duodenal perforation. Per contra, it was supposed to be a case of ruptured appendicial pus collection, with suppurative peritonitis. Prompt operation saved the life of an interesting young woman, otherwise doomed; and, as far as our researches enable us to ascertain, permits us to put upon record the second case of perforating duodenal ulcer to recover after operative intervention.

We would not convey the impression that our interest in this case is centred in the fact, if it be a fact, that this is the second recovery recorded. Our interest should be focussed in the lesson it teaches, that such cases can be saved by prompt surgery. As to the number of recorded recoveries, it is due ourselves to state that we have not looked into the subject very exhaustively.

In the *Twentieth Century Practice*,* the statement is made that sixteen cases of perforating duodenal ulcer have been operated upon within the last six years, but no report is made as to the number which recovered.

Greig Smith,† in his work on abdominal surgery, says that at least one success is recorded.

In the *American System of Practical Medicine*,‡ by Loomis and Thompson, the statement is made that four cases have been operated upon—one with success.

The medical and surgical literature of perforating duodenal ulcer is strikingly meagre. As far as we have ascertained, its surgical interest seems only to have attracted the attention of Greig Smith. In such works as the *American Text-Book of Surgery*; *Surgery by American Authors*, Parks; *System of Surgery*, by Treves; *Practice of Surgery*, by Wharton and Curtis; Wyeth's, Moullins, and others, duodenal ulcer is only mentioned as a frequent complication of extensive burns.

Even a brief resume of all that has been recorded in the works on Practice of Medicine as to the etiology, special and differential diagnosis, and medical treatment of duodenal ulcer, would be beyond the limits of this paper; and while, in all of its phases, it is interesting, we

must limit ourselves to its diagnosis and surgical treatment.

It is a matter of common observation that while gastric and duodenal ulcer have much in common, there are notable and inexplicable clinical differences. Duodenal ulcer, in the proportion of 16 to 2, occurs in adult men and not infrequently in robust men. It may occur at any age, from infancy to senility. Gastric ulcer, on the other hand, is prone to occur in anæmic young women. Let me remark, in passing, that I have never been able to reconcile the occurrence of gastric ulcer in young women with the generally accepted theory that it is due to thrombosis or to some type of obliterating arteritis of a terminal artery. Degeneration of the blood vessels is not the rule in the young. No exciting cause for thrombosis commonly co-exists, and in vegetative endocarditis duodenal ulcer does not occur. On the other hand, in support of the theory of obliterating arteritis, it is claimed that thrombosis and ulceration have been artificially produced. Whether this circumscribed molecular death is due to thrombus, to an arteritis obliterans, to a neuritis with trophic degeneration, or is microbic in origin, must, for the present, remain an open question, and it is equally impossible to explain why, in some instances, duodenal ulcer is attended with marked local symptoms, and in others with no symptoms at all. Prior to rupture, the symptoms, if any are manifested, are easily and frequently confused with those incident to gastric ulcer—morbid changes about the pylorus, inflammatory conditions about the bile tract, and with so-called gastralgia, neuralgia, etc.

Notably by Loomis and Thompson, in *American System of Practical Medicine*, the differentiation between gastric and duodenal ulcer is fully elucidated. It is claimed that duodenal ulcer is more frequent in men, and is less frequently attended by hemorrhage or dyspeptic symptoms; that icterus is more common; that pain does not come on for three or four hours after the ingestion of food, and what is of special interest to the surgeon, perforation and peritonitis is more frequently met with as a sequence of the duodenal ulcer. These writers fail, however, to differentiate between the symptoms of duodenal ulcer and those incident to bile tract troubles, cancer of pylorus, pancreas, etc., and we think they are much more emphatic in their conclusions than would be expressed by surgical clinicians experienced in diagnosing obscurely defined intra-abdominal lesions.

Greig Smith emphasizes this point, and claims

* Volume VIII, page 473, 1898.

† Volume II, page 785, 1898.

‡ Volume III, page 193, 1898.

that the disease "is usually, as regards symptoms, latent, or produces evidences of its existence so vague and uncertain that diagnosis of duodenal ulcer is rarely made."

As in other intra-abdominal lesions, exceptionally classical symptoms may clearly define a typical case. The leading symptoms—*i. e.*, vomiting and pain some hours after meals, occasional hemorrhages or melena and local pains and tenderness are equally common symptoms of so many other morbid conditions. Even in perforation, the cases are, as a rule, atypical, with confusing and misleading symptoms.

The case we recently treated illustrates this last conclusion. The patient, a young school girl, *æt.* about 17 years, while not robust, had always enjoyed fairly good health. About one week before the perforation occurred, she began to experience some intra abdominal pain, but does not recall that it was focussed in any one special spot, or that it was made worse by eating, exercise, or anything she did. It was, however, sufficiently severe to prompt her to see her physician several times, and she was told by him that he feared it might be incipient inflammation of the appendix. There was no vomiting of either food or blood, no bloody stools. She had rarely in her life suffered from indigestion, and this obscure pain had existed only a week. I was requested to see the case in consultation at two o'clock at night. At that time she was profoundly collapsed from a supposed ruptured appendicidal pus collection. The evening before she had been on the street, and, after eating a hearty supper, walked with some friends six or eight blocks to a depot. On her way back, she walked very rapidly, and just as she reached home she was taken with violent pain, etc.

I have dwelt at such length upon the history of this case because it sustains the conclusion that duodenal ulcer may exist with minor local symptoms prior to rupture and very confusing symptoms after rupture. Perforation of the duodenum evidently occurred several days before the night of the acute symptoms, and a circumscribed pus collection was walled in by adhesion of the transverse colon to the duodenum at the point of perforation. This was subsequently revealed by a large patch of lymph on the duodenum with a corresponding patch on the transverse colon. Perforation and local infection, and the formation of a circumscribed abscess, evidently occurred while the patient was up and about, and this abscess and local peritonitis was not attended with sufficiently severe symptoms to

cause either very much suffering or anxiety, and certainly they were not such as would fore-shadow the impending danger. When this abscess burst into the peritoneal cavity, the symptoms rapidly became extremely acute. The rapid pulse, subnormal temperature, pinched features, vomiting and rigid abdominal muscles, presented a clear clinical picture of intra-abdominal infection. But there were no guiding symptoms indicative of the source of the infection. The same acute symptoms are common to infection from the appendix, ileus, septic typhoid, tubercular perforations, etc. Granting that the pain was above the umbilicus, time and again we have seen the pain of acute ileus or appendicitis focussed above the umbilicus, and very recently we saw a case, in consultation, in which there was no abdominal pain, no muscular rigidity, the abdominal walls could be pressed without pain back to the spinal column. There was, however, short pleuritic-like pain under the right breast. There was a history of appendicitis, and a section revealed a gangrenous appendix.

If we recall the distribution of the great sympathetic ganglion to the abdominal viscera, we will be reminded of the fact that pain from almost any part of the intestinal tract will commonly be referred to a point about or even above the umbilicus in the region of the superior mesenteric plexus.

The great desideratum in this, as in many intra-abdominal troubles, does not seem to be an improved operative technique, but rather greater proficiency in diagnosis.

The surgeon's interest in the treatment of duodenal ulcer begins possibly when, by medication and dietetics, the case is found to be incurable, possibly when profuse or prolonged hemorrhage endangers life through acute or chronic anemia, and certainly when perforation and local or general infection occurs. This infection should be classed with that incident to appendicitis, to bullet wounds of the bowel, to typhoid perforation, etc. In each instance we have infection from intestines in which pathological conditions give active pyogenic properties to its ptomaine factors. In general peritoneal infection from appendicitis, from perforation in connection with cholangitis or cholecystitis, or gastric or typhoid ulcer, and in bullet wounds of the hollow viscera, preventive surgery is ideal. The key to success is an early operation to prevent rather than the almost forlorn task of trying to cure diffuse suppurative or septic peritonitis. Perforating duodenal ulcer is as logically within the province of justifiable surgery as any of the morbid

conditions above mentioned, and certainly, if correctly interpreted, the symptoms present a clinical picture, clearly noting, from some source, a general peritoneal infection. It is uniformly fatal to wait for the typical manifestations of general infection. Appreciating this truism, Dr. Nuckolls, as soon as he saw the patient, asked for consultation and advised her removal to the Virginia Hospital. There was a delay of four or five hours incident to removing the patient to the Hospital and in trying to react her by means of saline infusion, strychnia, morphine, and the usual remedies called for in profound shock.

It was ten o'clock—twelve hours from the beginning of the acute symptoms—when the operation was begun. In that time, general suppurative peritonitis was fully developed. Assisted by Drs. Edward McGuire, Virginus Harrison, and Marvin Nuckolls, the usual section for appendicitis was made. In incising the peritoneum, gas and pus poured out of the general peritoneal sac. The appendix was quickly delivered, and, much to our surprise, was found not involved in the least. Thinking the focus was in the uterine adnexia, the incision was enlarged downward, and an examination of the pelvis was also negative in its results, except to disclose much puddling of sero-purulent fluid. Having eliminated the two most common sites of infection, and as there were no evidences of strangulation ileus, we turned our attention to the bile tract. To expose this site, our incision had to be extended well up to the ninth costal cartilage. This long incision and extensive exposure of the abdominal contents enabled us to note that the intestine—notably the transverse colon—was covered in many places with the commonly observed diphtheritic-like lymph deposit. There was also more injection of all the structures, and the presence of a considerable quantity of greenish looking fluid was also noted. The bile tract, when fully exposed, was also found intact and not the focus of trouble. Very quickly, however, we found the duodenal perforation. It was situated on the anterior surface of the third portion of the duodenum, about midway between its free border and mesenteric attachment, and from it the duodenal contents were freely escaping. The perforation had the characteristic punched out appearance, and was not larger than the lumen of a goose quill. For an inch or more around the perforation the duodenal wall was thick, indurated, and inelastic, and covered with a layer of yellow grayish lymph.

There was nothing unique in the technique

of the operation. The infected lymph was carefully peeled off from around the perforation, and an effort was made to invert the ulcer by means of interrupted silk sutures. This was found impracticable; the thick duodenal wall and friable tissue were the difficulty. A purse string buried deep in the thickened wall was made to encircle the perforation, and when tied this effectually closed the opening. With silk sutures the ugly looking adjacent peritoneal tissue was brought over the purse string and perforation.

The further technique consisted in carefully wiping away with gauze sponges the lymph deposit wherever found. Next the visceral and abdominal cavity were subjected to prolonged irrigation with hot saline solution, and finally the abdomen was riddled with gauze drainage.

Convalescence was slow, a consequence of imperfect drainage and infection of the abdominal incision. For the first three or four days a great deal of blood serum was drained off; this gradually lessened in quantity, and in five or six days the patient was anesthetised and all the drains except that one which was in contact with the sutured perforation were removed. Puddling of pus was found to have occurred along or behind several of the strips, and a discharge of pus from these infected tracts lasted for several weeks. The ultimate outcome was a satisfactory convalescence, and the patient when discharged presented a better condition than is the lot of many who recover from a celiotomy of less serious proportions.

6 North 5th Street.

A CASE OF SUDDEN DEATH IN LABOR.*

By W. P. C. HAZEN, M. D., Washington, D. C.

Some time prior to August, 1898, I was engaged to attend Mrs. P. in her confinement, which it was expected would occur about the middle of August.

Mrs. P. was 28 years of age, and the mother of one child aged six years, at whose birth I had assisted. The patient was a strong, healthy woman, seldom having need of the services of a physician, and led a life of ease and comfort.

Shortly after having been engaged, I called upon the patient and found her in a perfectly normal condition, with the exception of some slight oedema of the ankles and legs. From this, I was led to make an examination of the urine for albumin, but after three examina-

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, December 1, 1898.

tions at different intervals, I found only a slight trace of albumin present each time—not enough to indicate any kidney complication. Shortly after 8 P. M., on August 7th, I was summoned to attend the patient, who had been in labor since 8 o'clock P. M. Upon arrival at the house, I found the patient in a very cheerful and hopeful frame of mind, and discovered, upon examination, that the os was slightly dilated, and that at irregular intervals she experienced the usual short, cutting pains. I made out a normal head presentation. I remained at the house about one hour, in order to observe the rate of progress, and found that everything was progressing in a perfectly normal manner. I informed the husband of the favorable conditions, and that I would return in two hours, unless called sooner. About 11:30 P. M., the husband came for me, stating that his wife was having very severe pains. Upon my arrival at the house, I found the patient again in the same calm and apparently normal condition, and upon examination, found the os well dilated, and that the bag of waters had ruptured and labor appeared to be progressing normally.

After being in the room a few minutes, I noticed that the patient was annoyed somewhat by a slight, dry cough, which appeared to be of nervous origin. This cough gradually increased in frequency and severity during the remainder of the labor.

About 1 o'clock A. M., I found that the head was resting upon the perineum, and advised her to agree to the application of the forceps, in order to relieve her of any further suffering. She consulted her husband, who readily agreed, and then she concluded she would prefer to "let nature take her course." A few minutes later she was seized with a severe spasm of coughing. She sat up in bed and expectorated a small amount of frothy mucus, tinged with blood; and, turning to me, she said in a calm, mild manner, "Doctor, I believe that I am dying," and before I could reach her side to support her, and in less time than it takes me to tell it, she fell back on her pillow, dead. The child was delivered dead.

The family were opposed to post-mortem, and I am free to confess that to the present moment I am ignorant of the exact cause of this fatal termination of what was in every other respect a typical normal labor.

I have since elicited the fact, from relatives, that the patient, when a young girl, suffered from an attack of inflammatory rheumatism. But during the whole period of my acquaintance with her—a period of at least seven years

—she had been a perfectly healthy woman in every respect.

In looking over the literature on the subject of "sudden death in labor," and the cause thereof, I could not help being impressed with the poverty of medical literature upon this subject. True it is, that there have been many interesting papers upon the subject, and by eminent and able authors, but they consist almost entirely of detailed and graphic accounts of particular cases, and, with but few exceptions, no very satisfactory explanations as to the causes of such a tragic ending of what should be one of the happiest events in domestic life. Professor Lusk himself acknowledges: "But when the conscientious physician seeks for light concerning the cause of the tragedy in which he has played the part of a powerless spectator, he will find but scanty guidance in the few brief lines devoted to the subject in the systematic treatises upon midwifery."

In an attempt at a classification of causes of sudden death during labor, Hirst, in his work on Obstetrics, gives the following eight causes:

- 1st. Mental emotion.
 - 2d. Severe suffering and nerve exhaustion.
 - 3d. Disease of the heart.
 - 4th. Rupture of the aorta or other internal organs.
 - 5th. One of the accidents or complications of labor.
 - 6th. Pulmonary thrombosis or embolism.
 - 7th. Entrance of air into the uterine veins.
 - 8th. Disease of the respiratory organs.
- 511 East Capitol Street.

DISCUSSION.

[Reported by Dr. Johnson Eliot.]

Dr. Bovée had never seen but one case of such an accident, but had seen references to it. He cannot account for it except by supposing there was some heart trouble from rheumatism or muscular or nerve strain. Is astonished at the small number of cases reported, since there is great muscular strain and nervous excitement at the time of labor. Some authors insist upon there being a compensatory hypertrophy of the heart during pregnancy, so that it may be prepared for the extra tax to be placed upon it at labor. Thought œdema of the lungs may have been present, but not noticed, as suggested to me by Dr. Sothoron. This, from fatigued circulation, may occur rapidly, and even escape notice, because of the environments. This was probably the cause of death in Dr. Hazen's case.

Dr. Sothoron asked whether there was cough and how long it had lasted; also if internal hemorrhage had occurred.

Dr. Hazen said there was a slight cough but no internal hemorrhage.

Dr. Bovée said there were other causes of death, and suggested rupture of the uterus, with escape of the fœtus into the abdominal cavity. The shock accompanying such an accident had caused instant death in a patient in his hospital service.

Dr. Stone said it was hard to give the cause of death in this case, in view of the fact that a post-mortem examination had not been allowed. The cough had been present—there may have been œdema of the lungs, pleuritic effusion or cardiac disease. Heart disease may have been present, but not diagnosed; sudden death is often due to heart disease which may have existed for years.

Dr. Sothoron questioned whether œdema of the lungs could cause so sudden a death as had occurred in this case.

Dr. Stone related a case of sudden death in an apparently healthy man, who had been kicked by a horse in the region of the heart—death followed from œdema of the lungs.

Dr. Borden, in speaking of the causes of sudden death, related a case of an-enlisted man, who died suddenly on leaving the dining table; post-mortem failed to show lesions. There had been no shock, no history of alcoholism, nor had he ever been sick. In another case, a hospital steward, who had been exposed to cold, although his condition was good, died fifteen minutes after observation. In this case, the post-mortem showed œdema of the lungs; other organs healthy.

Dr. Vincent related cases which he had seen in hospital; one of simple bronchial inflammation, another of pneumonia.

Dr. Hazen, in closing, said the woman was apparently healthy, weighed about 130 pounds, was 5 feet 6 inches in height. Her first labor had been terminated with forceps; was not seen in the interval. The heart had not been examined, since there had been no occasion to do so; urine was normal in quantity and composition. Her cough, towards the last, was aggravated; there was no evidence of internal hemorrhage. He had certified the case as one of œdema of the lungs. Had seen one death from rupture of the uterus, but it occurred slower than in this case. No medicine of any kind had been given.

WHAT MEDICINE OWES TO BACTERIOLOGY.*

By E. C. LEVY, M. D., Richmond, Va.

Professor of Histology, Pathology, and Bacteriology, Medical College of Virginia; President of the Richmond Academy of Medicine and Surgery.

Only the true devotees of science—and these have been conspicuous by their scarcity in all times—are so enthralled by the love of knowledge for own sake as to ask of their mistress naught but that she shall lead them, even over rough and thorny ways, into new paths of knowledge and over higher realms of wisdom. Most men, especially in this utilitarian age, view each new discovery of science from the standpoint of its usefulness, and see naught desirable in the most glorious achievements of the human intellect, when these do not at once result in some practical application, some immediate benefit to themselves or to mankind at large. If it must be admitted that the rank and file of our own profession belong to this latter class, it must also be granted that there is nothing derogatory in the admission. The function of the physician is to heal the sick, and to this end must be turned all his energies, all that is strongest and highest and noblest in his mentality. Having throughout life to deal with the concrete problems of human suffering, small wonder that he finds no time to wander into alluring byways of abstract science, or that he greets with a chilling "*cui bono*" each announcement of the enthusiastic worker in some sister science.

Now that the hopelessness of refuting the facts of bacteriologic science has been demonstrated, it is still common to hear many who formerly contested all the claims of bacteriology falling back on the statement that, admitting the teachings of this science, yet these are after all of no practical interest to the medical profession, and that however much light may have been thrown upon the etiology and pathology of many diseases, yet the vastly more important point of curing these conditions has not been materially advanced. I have therefore selected the subject of this paper with the idea of indicating, in such manner as can be done within the limits assigned, the practical services which bacteriology has rendered to the science of medicine.

Unquestionably foremost among these services stands the fact that to bacteriologic teachings were due the development of antiseptic surgery, whose introduction revolutionized the

* Read before the Tri-State Medical Society of the Carolinas and Virginia, Charlotte, N. C., January, 1899.

chirurgical art, opening up at once new possibilities and enabling the surgeon without fear to enter regions whose invasion was previously not to be thought of; removing all mystery associated with suppuration, surgical fever, erysipelas, and hospital gangrene; and making every surgical operation far more than a mere mechanical problem whose solution meant a few minutes (the fewer, the better) of cutting and coaptation. But the history of antiseptic surgery is too familiar to every physician to justify the enlarging upon this topic in spite of the wealth of material it offers in maintaining the point under discussion. Let those, however, who are inclined to oppose the idea that bacteriology has contributed much of practical value to our art reflect on the triumphs of antiseptic surgery ere they attempt to belittle the science to which it owes its origin.

Right here such opponents may reply that the doctrines of Lister were formulated at a time when but few facts in bacteriology were known, and when it laid no claims to being a science. Admitting, they will say, that the most brilliant triumph of bacteriology was the outcome of such imperfect knowledge, then the further growth of the science should have led to even more striking developments of usefulness if the subject is indeed as important as is claimed.

At first glance, this argument might seem not without justice, but such remarks, more closely investigated, show an ignoring of the course of development of almost every discovery which has been made in any line. It is the rule, rather than the exception, that the announcement of some entirely new principle leads almost at once to practical results of a more radical nature than those arising from subsequent patient and laborious investigations of the subject. The prevention of movable types was a greater advance from the previous time-consuming and unsatisfactory methods of preserving the thoughts of living genius than have been all subsequent achievements of typographic art. Great as has been the advance from the original hand-press to the massive and wonderful mechanical devices of the present day, which print, fold, and paste thousands of copies an hour, yet we justly recognize the revolutionary effect of the art of printing upon human progress as dating from the fifteenth century, when the principle was discovered, and we regard all subsequent developments in this art as differing in degree only from those of that day.

From a scientific point of view nothing could be more radical than the recent discovery of

X-rays, for it brought to light a form of energy previously unheard of, yet within a few months after the announcement of this discovery about all that was essential in its application had been worked out, and it is not unsafe to say that, however much certain minor details may be subsequently elaborated, yet none of these results will equal in brilliancy those which were almost at once attained.

Hence, when we admit that no application of bacteriology has exceeded in practical results the introduction of antiseptic surgery, we are but illustrating the common course of new discoveries. In this very instance, too, the parallel may be carried further. Just as in the cases above cited, while nothing as radical as the first principles of antiseptic surgery has since been introduced, yet the perfecting of technic has gone on, and many cumbersome, useless, and even injurious details of the original method have been supplanted by the more modern practices of its successor—aseptic surgery. The conception that the air, and possibly the tissues of the patient himself, teemed with germs of suppuration seemed to require the use of antiseptic sprays in the operating-room and the application of powerfully germicidal irrigations over the field of operation in every case. Now it is known that the air is a source of danger which may commonly be ignored and that normal internal organs are free from bacteria, while the actual sources of possible infection are recognized in the integument of the patient, in the hands of the surgeon or his assistants, and in instruments and dressings. These are subjected to such disinfecting processes as are suitable for each, and the increased ease of operating and the greater readiness with which the healing process occurs in tissues which have not been subjected to the prolonged macerating and irritating action of powerful antiseptics, are secondary triumphs which, while not so radical an advance over former methods as was the original introduction of Listerism, are yet to be regarded as essential improvements over that method. It may be pointed out that the technic of modern asepticism is the outcome of painstaking bacteriologic investigations.

After this cursory view of the debt which our profession owes bacteriology on the surgical account, let us take up the contributions of this science to internal medicine. Here, too, we find that much has been accomplished. True, there is no one thing which is seemingly as brilliant as the records of antiseptic and aseptic surgery, for the benefits, though in the aggregate at least equal to those conferred upon

surgery, are scattered and must be considered individually.

To account for this difference is not difficult. Accepting the common division of medical treatment into preventive and curative, and contrasting these with the principle of aseptic surgery, we see how infinitely more difficult are the conditions met with in the medical than in the surgical class. To perform an aseptic operation requires only that we shall for a brief space of time exclude the entrance of bacteria to a limited exposed area—conditions not so trying when once their nature is understood. On the other hand, preventive medicine, so far as bacterial diseases are concerned, demands continuous effective opposition to the entrance of widely-distributed pathogenic organisms to any part of the system, and curative treatment, as applied to the same class of cases, involves the destruction of these germs, or the neutralization of their toxic products, after the citadel has been invaded. Let us now see what has been done towards meeting these exacting requirements.

In the line of preventive medicine, not only have there been introduced methods of widespread usefulness in checking the invasion of certain diseases whose origin and mode of transmission have become known through bacteriologic investigation, but these methods have also been applied with much success to that large class of cases which, while clearly of an infectious nature, are still of doubtful etiology.

In combatting the spread of that great modern scourge, tuberculosis, the sanitarian has encountered at every step the most violent opposition on the part of the very ones whom he has sought to benefit, and his failure to accomplish even more striking results than those which have actually been attained must be attributed, not to lack of knowledge, but to failure to secure the support of popular sentiment. The lines along which he has, for the most part, been forced to confine his attention, are in the direction of the prevention of the transmission of the disease from animal to man, and he has been allowed to do but little in checking the direct transmission from man to man. Dairy, meat, and herd inspection are now recognized functions of boards of health in many States and cities, and to bacteriology is due not only the introduction of these protective measures, but also the methods by which they are carried out. While the above-mentioned measures are directed against a mode of transmission far less important than that which, in most communities, is but little considered, still

they are far better than the entire ignoring of every means of prevention of the spread of the disease. In some cities rigid regulations have been enacted as to spitting in public conveyances and places of assembly, but all attempts to introduce any sort of legal control over the mode of living of the victims of tuberculosis have thus far encountered too violent opposition to admit of their being carried into effect. It is to the education of the public itself that we must look for the adoption of the proper measures of protection. When the infectious nature of tuberculosis shall have become more generally understood, popular sentiment will itself enforce what, at the present time, scientific appeal is powerless to effect.

In diphtheria, bacteriology not only enables the physician to decide promptly and positively the nature of suspected cases, but it also furnishes him with an absolutely trustworthy guide as to the length of time that it is necessary to isolate any given case after apparent recovery, thus at both ends of the disease lessening the danger of a single case transmitting the disease to others of the household, or even throughout an entire community.

In typhoid fever, the recognition of the fact that the feces contain the *materies morbi* of the disease has led to preventive measures in the disinfection of the stools of typhoid patients, and to guarding against contamination of the water supply. Where there is reason to suspect that such contamination has actually occurred, it is a lesson learned from bacteriology that such water should be boiled before drinking. In many communities, the introduction of city filters has been uniformly followed by a diminution in the annual number of cases of typhoid fever.

The effective disinfection of apartments after occupancy by contagious cases is another hygienic measure whose technic has been perfected through bacteriologic teachings.

This by no means ends the account of what preventive medicine owes to bacteriology, but an outline of the debt in other directions now demands consideration, which must here be of an equally cursory character.

Coming to the question of the curative measures which internal medicine owes to bacteriology, we find the use of antitoxins as the most important contribution. Up to the present time, the only common disease of this country in the cure of which an antitoxin has proved of very great value is diphtheria. Antitoxic serum is now generally recognized as the most valuable agent in the treatment of this disease. Statistics of the most extended nature conclu-

sively prove this, but even more convincing is the personal testimony of the thousands of physicians who have employed the remedy. It is very common to hear the statement made by practitioners of ability that they now approach the treatment of this dread malady of childhood with a confidence unknown in former years, or, at any rate, without that overpowering sense of helplessness which they formerly felt.

The opposition to diphtheria antitoxin comes, for the most part, from those who have never employed the remedy, or who, using it, have utterly ignored all the recognized rules, and expected it to accomplish the impossible. It has never been claimed that antitoxin could restore the integrity of organs whose cells have become profoundly affected before the remedy is given, yet it is still no uncommon thing to witness its exhibition late in the course of the disease by men who have never learned that the remedy is to be given as soon as the diagnosis is made, and not as a last resort. It is needless to point out that not only is antitoxin the result of bacteriologic study, but that its production is entirely dependent upon that science.

In the treatment of tetanus, antitoxin has not yet been as successful as in diphtheria, although laboratory experiments prove it to have even greater power of neutralizing the toxin of that disease than diphtheria antitoxin has over its corresponding toxin. The reason for this discrepancy lies in the fact that when tetanus is first diagnosed the disease has already progressed to a point corresponding to a late stage of diphtheria—a stage in which, as has been repeatedly pointed out, antitoxin is well-nigh powerless. Recently much light has been thrown on this point, and a mode of employing tetanus antitoxin has been suggested which will perhaps render its use of service in otherwise hopeless cases. It has been demonstrated that the cells of the central nervous system possess a special affinity for the toxin of tetanus, and that the poison of the disease is thus gradually removed from the general circulation and fixed in the cells of the brain and spinal cord, where its effects are exerted. This offers a rational explanation, not only of the special symptoms present in tetanus infection, but also of the ineffectiveness of subcutaneous injections of antitoxin after such a combination has occurred—the antitoxin not coming into sufficiently direct contact with the toxin which is fixed in the cells of the central nervous system.

Following out this idea, Roux and Borrel, within the past year, have suggested the advi-

sability of injecting tetanus antitoxin directly into the brain of the patient, where it is at once brought into intimate relation with the combined toxin. Their experiments upon guinea pigs have shown that by this method the lives of infected animals can be saved at a stage where mere subcutaneous injections of the antitoxin are without effect. Already this method has been applied to the human subject in twelve cases—nine in Europe and three in this country.* Of these cases, five recovered and seven died. Most of the fatal cases were either of a character so profound that not even under the anæsthetic used during the operation did the muscular spasm disappear, or else the patient died from complications not directly due to the tetanus infection. When it is remembered that in all of these cases the treatment was undertaken as a last resort, after it appeared that death would otherwise certainly occur, a recovery rate of 42 per cent. is to be regarded as exceedingly encouraging.

Regarding the use of antistreptococcic serum, reports have been most contradictory. It seems as if the remedy will prove of value under certain conditions. The product is as yet not satisfactory, it being especially prone to lose its power with age, and the virulence of the streptococci from which it is manufactured is so variable that experiments made with any given specimen cannot usually be reproduced with the next.

In the treatment of bubonic plague, much more satisfactory results have been attained by serotherapy than we would have been led to expect from the usual rapid course of the disease.

While, then, practical results with antitoxic serums, so far as the common diseases of this country are concerned, are as yet limited mostly to their employment in diphtheria, still the discovery of the underlying principles involved may be regarded as a most brilliant triumph, and there is no doubt in the minds of those who are in touch with bacteriologic progress, that little by little these principles will be elaborated until the system is perfected.

The use of protective vaccines against several diseases, has already been attended with satisfactory results, and promises much for the future. It is beyond the scope of this paper to go into details on this subject.

The treatment of inoperable cases of sarcoma, especially of the spindle-cell variety, with Coley's streptococcus and prodigious toxins, while not by any means uniformly success-

* George G. Rambaud, *N. Y. Med. Jour.*, lxviii, 25, page 884.

ful, and also attended by many drawbacks, has yet been shown to offer at least some chance of recovery to a class of cases otherwise certainly doomed to speedy death.

In that rather rare but justly dreaded disease, hydrophobia, the treatment originated by Pasteur is now recognized as the most valuable procedure at the disposal of the physician. While this does not strictly fall under the head of bacteriology, since the germ of the disease is as yet unknown, still we have every reason for believing, from analogy, that bacteria, or allied micro-organisms, are the etiologic factor, and the methods employed in the manufacture of the virus are similar to those of bacteriologic technic.

The important rôle of antiseptics internally employed is the direct outcome of the teachings of bacteriology. No substance has yet been discovered which will effectually destroy germs which have once gained entrance to the human organism without at the same time being directly poisonous to the host, but the restraining, or antiseptic, influence of many substances is constantly taken advantage of by the physician, especially in conditions of fermentation occurring in the digestive tract. With the systematic investigation on the part of bacteriologists of each new compound elaborated by the chemist, it is entirely possible that the combined efforts of these two classes of scientists may yet result in the discovery of an ideal internal antiseptic and germicidal agent.

Up to this point, this paper has dealt with only such practical points in bacteriology as have directly contributed to the saving of human life, either through surgery, preventive medicine or therapeutics. Brief notice must now be taken of two indirect methods by which our power as physicians has been extended through bacteriologic teachings; for without recognition of these, our sense of obligation to this science would be by no means complete.

In the diagnosis of many diseases, bacteriology offers the only opportunity for prompt recognition at a sufficiently early period for our therapeutic means to be capable of exerting their full effect. In other conditions, many obscure points can be cleared up by this mode of investigation—a service whose importance is only now becoming generally recognized, and whose possibilities are far from fully developed.

Finally, must be mentioned the insight into the pathology of disease in general which has been gained through bacteriology, a point lit-

tle appreciated by the general practitioner. Valuable as were the lessons of the post-mortem table before the days of bacteriologic science, yet, after all, necropsies do but show the lesions of disease after they have gone on to the point of fatal issue, except in so far as their earlier stages may at times be studied in intercurrent affections. In the latter case, however, it is a composite and not a simple picture which is offered for inspection. Furthermore, light is but seldom thrown by human autopsies upon the course of disease ending in recovery. By means of animal experiments, conducted with either living bacteria or their toxins, the entire course of many diseases can be studied in detail from the time of their incipience to the point of death or recovery. Such important facts have been learned as that a pure tuberculous infection of the lungs does not give rise to cavity formation, but that this occurs through superadded infection by the streptococcus pyogenes or other micro-organisms; that the normal secretion of the peritoneum and other mucous and serous membranes possesses decided germicidal powers; that the same bacteria may give rise to a variety of affections under conditions as yet not understood; that fatigue, cold, insufficient food, and vitiated atmosphere predispose to many infections—and so the list might be prolonged for many pages.

In bringing this paper to a close, I realize how imperfectly the subject has been handled. I have merely sought to outline the service of bacteriology to medicine rather than to deal with any one of these exhaustively, for no one division of the subject could be satisfactorily dealt with in a paper of this length. That physician must be ungrateful indeed who fails to accord due credit to a science which has given him antiseptic and aseptic surgery; has made preventive medicine almost an exact science; has furnished him with the means of combating a most fatal disease and of alleviating many of the symptoms of others; has made easy the diagnosis of many important diseases, and has contributed to our understanding of a class of cases whose study had previously been entirely unsatisfactory.

"I don't see how getting one's feet wet causes toothache."

"You don't? If you ever had a tooth pulled, you would know that the roots run clear to your toes."

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MALIGNANT TUMORS OF THE BREAST.*

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SYMPTOMS OF CANCER OF THE BREAST.

Pain.—As a rule, in the early stages of cancer of the breast there is no pain whatever. Occasionally there is pain, and attention is called to the breast by this symptom, and the tumor discovered; but generally the growth is found by accident, and there is no pain until the disease has progressed for some months. It is a common belief that one cannot have cancer without pain, and many a woman has allowed cancer of the breast, or of the womb, to continue until her cure was hopeless, because what she, and possibly her physician also, considered the characteristic symptom of cancer—pain—was absent. In a few cases, there is pain in the early stages; and why a few should have this symptom, and, under apparently the same circumstances, others should be free, is impossible to explain. While pain in mammary cancer is generally absent until the approach of ulceration, inflammatory swelling and non malignant tumors in that locality are generally attended with pain and tenderness. After the disease has progressed for some months, and especially when ulceration has begun, the pain is very severe. The patient has a constant heavy aching pain in the breast; but along with this, at short intervals, the pain is sharp, burning, stabbing, or lancinating in character. This pain is characteristic of cancer. The patient will tell you that she feels as if a hot needle or knife had been thrust through the part, and that while the suffering is constant, it is liable to paroxysms of increased agony.

*Continuation of paper (from January 27) read in part before the session of the Tri-State Medical Association of Virginia and the Carolinas, held in Charlotte, N. C., January 18-20, 1899.

Retraction of Nipple.—Great stress was at one time laid on this symptom, but the practitioner should not forget that this condition of the nipple may be congenital, or come from some disease or injury in childhood, or result from chronic mastitis, or cold abscess, or accompany the growth of a benign tumor. It is only important as a sign of cancer when associated with other symptoms of the disease. Retraction is more common when the tumor is situated near the centre of the breast. When the lump is near the periphery of the gland, it is often absent altogether, or at least for many months. It is more common, also, in duct cancer than in the acinous variety. Gross found retraction of the nipple in cancer of the breast in 52 per cent. of the cases. He found this condition also in 5.02 per cent. of cases of benign mammary tumors.

Dimpling of the Skin.—In the early stages of cancer, the skin is freely movable over the breast and tumor; but, as the disease progresses, the fibrous tissue that connects the skin with the breast (the suspensory ligaments of Sir Astley Cooper) are drawn upon and the skin is puckered. When the tumor is moved, it is seen that it is more or less fastened to the skin, and after a time, as the contraction of the skin goes on, a permanent dimple is seen. This symptom is important, as a similar condition is only found in chronic inflammatory affections of the mammary gland, attended then by involvement of the skin and other signs of inflammatory disease.

Diminished Size of Breast.—One of the most striking symptoms of cancer of the breast, is that when the two breasts are inspected it will be found that the diseased side is smaller than the sound organ—this, too, notwithstanding that the breast on the diseased side is occupied to a greater or less extent by the tumor. Contraction of the cancer mass not only goes on, but shrinkage also of the whole breast, so that the organ is not only smaller in size than the sound one, but it is more tightly fixed to the chest and less pendulous than natural. In

atrophic cancer, this condition goes on until the breast looks as if it had been removed and there was nothing left but a mass of cicatricial tissue.

Discharge from the Nipple.—Gross estimates this symptom in 7 per cent. of all cases of cancer of the breast. It is more common in duct cancer than in the acinous variety. The discharge, when it does occur, is slight, in quantity only two or three drops, sticky in character, and slightly milky in appearance. Occasionally, it is bloody. Other neoplasms also sometimes produce this discharge, as sarcoma, cystic disease, etc., and occasionally it attends an unhealthy condition of the breast due to diseases of the uterus and ovaries.

Nodulation and Ulceration.—If the case is not operated on, and the malignant growth removed, the dimpled and puckered skin may become in time red or purple and swollen, thickened and elevated, instead of being depressed as it has been; or, in other words, a *cancerous nodule* is formed. In a short time ulceration will set in, the thin red skin over the nodule is destroyed, and a *cancerous ulcer* appears. This ulcer is irregular in shape, deep, hard and excavated, and the skin around it intimately adherent to the parts beneath. The edges of the ulcer are hard and everted; the surface is depressed and sloughing; the discharge from it thin, bloody and excessively offensive in odor, inflaming and excoriating the skin around.

Lymphatic Implication.—In some cases, in the ordinary acinous cancer of the mammary gland, the skin over the breast, and possibly for some distance around—more especially in the direction of the axilla—becomes red, swollen, thickened and painful. This is due to dissemination of the cancer in the plexus of the lymphatics just below the skin, chiefly in the suspensory ligament. The cancer cells become rapidly diffused and all the cutaneous lymphatic branches are implicated. Sometimes small tubercles are formed (acute miliary carcinosis), or the infiltrations are diffused and constitute *carcinoma en cuirasse*. Very often, when the deep plexus of lymphatics are implicated and numerous cancer nodules are formed, the skin on the nodules, and between them, becomes thickened, tough and leatherlike in appearance. This condition is apt to follow cancer situated near the nipple, atrophic in character, is very malignant, and ends life in a few months (in from six to twelve months). At one time this was considered a distinct variety of carcinoma, but pathologists now regard this cutaneous change as a secondary transforma-

tion and one always preceded by primary cancer of the breast. The disease continues, involving more and more of the adjacent skin, which becomes very hard, dusky red, and tightly adherent to the parts below it. So constrictive does this *cuirasse cancer* often become, that it sometimes mechanically interferes with respiration.

Glandular Involvement.—No other gland in the body is so richly supplied with lymphatics as the breast. These lymphatics, deep and superficial, freely anastomose with one another, and usually in six months after the primary cancer has made its appearance, enlarged lymphatic glands can be felt in the region of the axilla. This enlargement shows that a cell, or group of cells, from the cancer may have found its way through the channels of lymphatics and found lodgment and growth in a neighboring gland. The arrest of the cancer graft by the gland has for the time prevented further cancer dissemination. The glands first to become involved are those on the inside of the axilla and lying under the edge of the pectoralis major. The glands that lie on the inner side of the great blood vessels and receive the largest vessels from the arm, and the glands in the back part of the axilla communicating with the lymphatics in the subscapular region, are not at first diseased, but as all the lymphatics in this region freely intercommunicate, the last also in turn become affected. So, also, owing to the anatomical arrangement, after a time the glands above and below the clavicle become diseased. Other branches of lymphatics pass through some of the intercostal spaces, and the retro sternal glands may in the end become implicated, and as the system of lymph vessels of both breasts freely communicate, cancer of one side—especially if on the sternal side of the gland—may produce enlarged and diseased axillary glands on both sides, although only one breast is involved in the primary neoplasm.

While glandular dissemination is rarely observable before six months, or for a longer period than that, according to some writers, it is probable that the disease would be found at a much earlier period if a careful histological examination could be made. When first seen the glands are small, hard and painless, and they gradually and slowly increase in size and in the number involved. Occasionally, one or two very large glands seem to spring up suddenly and enlarge quickly to a greater mass than the original tumor. The enlarged glands are not present in every case of cancer of the breast, and this absence does not show that the

disease is not cancer. Indeed, cancer of the breast may run its full course and end in death, and there may be no apparent glandular affection whatever; but this is rare. The chances of cure, after glandular enlargement appears, are materially lessened and the danger and rapidity of recurrence increased.

Adhesions.—Soon after, or concurrent with the appearance of enlarged and diseased glands in the axilla, the cancer tumor becomes attached to the pectoral fascia, and a little later to the pectoral muscle. This may be determined by forcibly extending the arm and putting this fascia and muscle on the stretch. While in this position it will be found, if adhesion has occurred, that the cancer mass can be readily moved laterally, but not up and down in the direction of the fibres of the muscle. In view of an operation, this information is important. In the fascia and muscle may be found small cancerous foci, left there by the lymphatics or by the blood vessels. These spots are often so small as not to be detected with the naked eye, but may eventually form the nidus for new growths. Histologically, these deposits are identical with the primary neoplasm.

Systemic Infections.—Some months after the glands show disease, systemic affection may be noticed. The time for this is variously stated by different observers from fifteen to thirty eight months. Gross says the time of metastasis and systemic dissemination varies in different cases from one to three years. It is doubtless produced by cancer cells, or small masses of cancer detached from the primary growth or its derivatives, carried into the circulation, and finding lodgment in some vascular tissue or organ. No doubt cancer, as well as sarcoma, is sometimes disseminated in this manner; or, the cancer material may be taken up by the lymphatics, escape arrest by the lymphatic glands, find its way into the thoracic duct or some large vein—as the left subclavian—and thus gain access to the general circulation.

Secondary Cancer.—In this way it may find a lodgment in any organ or tissue except the non vascular, as the cornua or cartilage, for metastatic deposits are never found in such structures. Many of these cancer emboli are probably destroyed and disappear, but some of them are deposited, live and grow—grow occasionally to a size immensely greater than the primary mammary neoplasm from which they had their origin. More frequently than any other organ, the liver is the seat of the secondary deposit; next the lungs, pleura, bones, brain, ovary, in the order of frequency mentioned.

Indeed, any vascular tissue or organ in the body may be secondarily affected. The metastasis may involve one structure or many. In this way the other breast may be involved, and it does not absolutely follow because both mammary glands are cancerous that very great systemic dissemination has taken place, and that the case is thus necessarily hopeless.

Bone Involvement.—While any bone of the body may be the seat of secondary cancer from primary breast cancer, the cranial bones are the ones most often diseased; next, the bodies of the vertebræ, the femur, and the humerus. The disease is usually in the medullary portion of the bone, and often the first information the patient has of its existence is spontaneous fracture of the bone—or fracture after slight muscular effort—there being little or no pain preceding it. When spontaneous fracture with evidences of cachexia are seen, cancer somewhere should be suspected and looked for.

Cachexia.—In the early stages the general health is not affected, and a patient with cancer of the breast may seem to be, to all appearances, in perfect health; but after a period that varies in different cases, signs of general toxæmia and impairment of health begin and continue to increase, if the patient is left to nature, until the end, death taking place usually from asthenia. The appetite is poor, emaciation comes on, weakness of body and mind are noticed, and the whole skin becomes pallid, sallow, waxy and tallowy in appearance. This muddy, straw colored tint affects the skin only, and not the mucous membrane, or urine, as slight jaundice will; dyspepsia, constipation, possibly nausea, may be present. There is systemic infection, from the admission into the blood of cancer cells—altered or not, but too abundant to be eliminated—from the cancer breast, and the blood itself is changed chemically and morphologically. This cancerous cachexia is not necessarily fatal; removal of the primary cancer sometimes arrests it, and the patient, at least for a time, regains her original healthy appearance.

Varying Progress of Cancer.—Cancer of the breast varies very much in its progress in different individuals. As a rule, the younger the subject the more rapid and malignant the disease. When it happens in a woman under thirty-five years of age it is, in my opinion, doubtful whether any operation, however radical, will lengthen life or lessen suffering. The growth and malignancy is especially marked in young women who become pregnant; the increase in the supply of blood to

the mammary gland during this period or during lactation will explain this. In these cases the tumor is usually soft and large and not attended with any contraction of the cancer tissue or the mammary gland. In old people the *acinous cancer often becomes atrophic* in character; and while it never gets well, the patient will often live for ten, fifteen or even twenty years, and may die from some intercurrent disease. In this type of cancer the enlarged glands in the axilla and systemic affection are slow and tardy in making their appearance; but it is well to remember that this form of cancer may suddenly become—especially if it is injured—acute and rapid in its course.

Modifying Changes.—Many of the symptoms of cancer may be modified by changes which sometimes occur during its development. Although devoid of nerves or function, it is liable to alterations by injuries or other causes that produce inflammation. Congestion, suppuration, ulceration or gangrene may ensue. Suppuration is rare, but after a certain stage of its growth spontaneous ulceration is almost certain to take place. This may begin in the deeper parts and extend to the skin, or it may involve the skin at the outset and spread to the deeper parts, or sudden interference with venous return, or some injury may result in gangrene. This may be moist or dry, partial or almost complete, and is attended by great suffering and immediate danger. Cystic degeneration may also occur and be the result of a hemorrhage into the mass, or some obstruction and dilatation of the ducts of the gland. Rare instances are also seen of *calcification* and *ossification* of the cancerous neoplasm. Occasionally in chronic acinous cancer, the disease, instead of steadily increasing as it usually does, shows symptoms of attempts at a spontaneous cure. The mass shrinks in size, becomes less painful, weak granulations form in the bottom of the ulcer, and some feeble attempts at cicatrization may be observed. This apparent arrest of the disease is temporary, and should not mislead the attendant into the belief that a spontaneous cure will result.

RECURRENCE OF CANCER OF THE BREAST.

Two cases of cancer of the breast are rarely, if ever, exactly alike. The disease in two women of the same age, degree of health, date of advent of cancer, with—as far as we can determine—the same morphological and pathological condition, will not pursue the same course. The relative malignancy differs. So also with recurrence of cancer after an operation has been performed. We cannot tell

whether recurrence will take place or not. It has been said that the histological character of the cancer will tell. The more typical the structure, the better the chance of exemption; the more atypical, the worse the prognosis. So far this has not been proven.

We know that in a number of cases—no matter how complete the operation—the disease will return; and we know that when the subject is comparatively young, the cancer soft, or of old date, or the operation not thorough, the disease is almost certain to come back. Gross says that the average period of its return is 9.4 months. Williams has compiled a table of 599 cases, and shows that in 238 of these cases recurrence took place in three months, 117 within six months; that is, about 60 per cent. recurred within six months. Gross says that 22 per cent. were within one month and 8.9 inside of fifteen days. Winniwater's reports are even more discouraging, while Agnew (it is said) operated for the moral effect only, and believed the operation rather tended to shorten life than to lengthen it.

Since Volkmann, however, directed attention to the absolute importance of a more radical operation in cancer of the breast, far better success has attended the surgeon's efforts. Recurrence has, in many instances, been postponed for many years, and absolute cures have increased in number. Now, no good surgeon is content to simply remove the breast in the old stereotyped way; but, in addition to taking away the whole breast with a large portion of integument over the tumor, the axilla is freely opened, all lymphatic glands are removed, and loose fat and cellular tissue carefully cut away. After this the fascia covering the pectoral muscle is carefully dissected off, not only on the surface of the muscles, but the prolongations of fascia that pass down between the bundles of muscular tissue; if diseased, the muscle itself is bodily removed. Since this radical procedure has been done, our success has been much greater.

No surgeon in this country has contributed more to our knowledge of the importance of a complete operation in cancer of the breast than Halstead, of Baltimore. He gives the details of fifty cases operated on in the Johns-Hopkins Hospital, with a local recurrence in only three cases (6 per cent.). By "local recurrence" he means return of the disease in the region attacked by the knife. "Regionary recurrences" are described by him as outbreaks of the disease in the skin at a distance from the scar, and are due to metastasis in the skin from the original growth. In 34 cases (73 per cent.)

there had been no local or regionary recurrence. In 43 cases (93 per cent.) there had been no true local recurrence, and Dr. Halstead says that we have "reason to hope for a brighter, if not a very bright future, for operations for cancer of the breast." All of these cases were operated upon in the same thorough way—one or both pectoral muscles, the axillary glands and those above and below the clavicle being removed. The report shows that cancer as a local disease may in many cases be permanently eradicated. Halstead removes in every case of cancer of the breast the large pectoral muscle, and, to prevent infection of the wound by pieces and shreds of cancer, he takes out cancer, fascia, muscles, glands, etc., as one piece.

As it has been demonstrated that for a long time the fascia covering the pectoral muscle protects, so to speak, the muscle from the spread of the disease; that the lymphatics are chiefly found upon the surface of the fascia; that the lymphatic current is from the muscle to the fascia and not the reverse; that the lymphatic vessels do not follow the blood vessels between the bundles of muscular fibres, it seems to me scarcely necessary or justifiable to remove the pectoral muscle in every instance, but only in those cases where the disease has spread that far. While I have removed with the breast both pectoral muscles, along with lymphatic glands of the axilla and supra clavicular region, and probably prolonged the life of the patient, such cases should probably be regarded as inoperable, as remote infection by metastasis has likely already taken place. When macroscopic inspection shows that the axillary glands are involved, and that it is difficult or impossible to follow up all the cancer foci even in that region, it adds very much to the hopelessness of the case to find also muscles involved and infection likely spread to the pleura and sternal glands. But when recurrence does take place another operation, as a rule, should be done and the morbid part as freely and thoroughly as possible be removed. Even when recurrence for the third or fourth time is seen, the operation, unless there is marked systemic dissemination, again as the only hope for life should be advised. I have one case on which I have operated eight times, and only the last one successful. The disease has not made its re-appearance after six years. But, to my mind, recurrence after an operation in the early stage goes far to show want of thoroughness in the first operation.

The sooner the cancer is removed after its presence is known, the less the chance of a re-

currence and the better the chance of a radical cure. If the operation can be performed before six months have expired—before the disease has had a chance to spread by contiguity, by lymphatics or by the blood—the better and more certain the results. It is true the lymphatics are in some case involved before six months have passed, but, as a rule, such is not the case. Delay is often recommended by the practitioner, as for a time he is unable to clearly determine the nature of the neoplasm. All the cardinal symptoms of cancer are not present, and in so grave a case he prefers to wait, and, as a rule, in my experience, he waits until other parts besides the breast are involved. Any tumor in the breast of a woman occurring before the menopause should be removed. *If it grows rapidly it is malignant.* If there is doubt about its nature the surgeon should cut down, remove a piece and find out what it is, and at the same time be prepared to operate on the case—to operate then, not the next day. Don't wait till the operation is hopeless, or nearly so. The frequency and time of recurrence will greatly depend on the time the operation is performed.

Much depends also, as has been stated, on the character of the operation. It is better not to operate at all than to do it imperfectly. More than half of the recurrences are situated in the breast, near or in the old scar, because the operator left in the skin, or fascia, or fat, or gland some of the cancer tissue; and when the disease has again made its appearance, it is not fairly a recurrence, but the growing of unremoved fragments of cancer at the original operation; and when the re-appearance is in the axillary glands it is fair to infer that they were invaded before the operation was performed, and have grown and developed since. These axillary glands should have all been removed at the first operation. To take out a malignant tumor of the breast and leave the rest of the mammary tissue, in the present state of our knowledge, is both cruel and silly. To leave the axillary glands is almost as bad. Cancer of the breast is a single tumor.

When recurrence takes place in the neighborhood of the operation the recurrences are multiple, showing that more than one small piece or fragment of cancer was left. It has been recently recommended that the surgeon should avoid, if possible, cutting into the cancerous neoplasm or tissue, but to keep the knife outside of the diseased part, to avoid detaching some small pieces which may grow like grafts, if overlooked and not removed.

But while the foregoing may explain the

large majority of the cases of the re-appearance of cancer, there are still cases that appear so late after the primary operation—ten, fifteen, or even twenty years—that cannot be accounted for in this way. It is true that some cancers of the breast are stationary for months and years, and occasionally undergo atrophy, wither, and almost dry up. So a recurrent growth, which pathologically and morphologically is identical with the primary neoplasm, may pursue the same course, and a very late re-appearance may be the very tardy growth of an unextirpated fragment.

But there are doubtless recurrences independent of unextirpated cancer cells left as foci for the regrowth of the disease—recurrences which can only be explained as independent re-appearances of cancer. Probably the same causes that produced the original disease are still in operation and have reproduced it. Fortunately these cases are rare. This form of recurrence may take place in a piece of the mammary gland that has extended into the axilla, and was completely isolated from the normal gland. Williams found in 132 consecutive cases of cancer of the breast, that thirteen had originated in supernumerary mammary structure, entirely disconnected with the normal gland.

Recurrence is more likely to take place in young women than in the old, and in very rapidly developing growth, rather than in one stationary or slow to increase, and in the soft variety of cancer than the hard.

ORIGIN OF CANCER.

For a long time two theories have been advanced as to the essential nature of cancer; both of them are advocated to day. The first is the embryonic, or evolutionary theory, and the second is, that the disease is due to a micro-organism. The first, while based on some sound and interesting observations, is not sufficient to explain many of the varied manifestations of cancer. The embryonic theory of the origin of cancer, has, however, many able supporters.

For many years a number of pathologists have regarded these lesions as microbic in character, and as early as 1872, Nepveu found micro organisms in malignant growths, which he regarded as specific. Since then a number of investigators at different periods have claimed to have discovered the real parasite of cancer; but their conclusions have been challenged by other observers and the theories advanced were rejected. At one time a micro-organism, called "cancer bodies," or psoro-

sperms, which belong to one of the many forms of *protozoa*, were asserted to be the cause of cancer. The special form supposed to be so intimately connected with the etiology of this disease was known as "coccidium," and were discovered chiefly in the new formed epithelial cells in the periphery of the cancer mass. But the parasite must be shown, isolated, and made to produce by inoculation the same disease it was alleged to have caused before it can be acknowledged parasitic in nature. All attempts at this were said to be failures.

Early in 1895, two Italian pathologists published, nearly at the same time, very remarkable experimental results of their investigations, which have attracted much interest. They found the active agent in the formation of cancer to be the *blastomycetæ*, which belong to a class of fungi to which the common yeast plants belong. Dr. Roswell Park has given a good epitome of this work of the Italians, and concludes by saying: "Thus, without quoting in detail the experimental labors of Sanfelice Roncali, and their pupils, it may be stated as positively proven that the *blastomycetæ* above alluded to, *i. e.*, at least, some of them, are capable: *first*, of being isolated by culture-methods from certain carcinomata and sarcomata; *second*, of identification as belonging among the yeasts; *third*, of producing tumors in animals by injection under suitable precautions, the resulting tumors being strikingly analogous to, or identical with, those from which the cultures were made; and, *fourth*, of furnishing from these tumors further cultures, from which yet other experimental inoculations can be made.

Without going so far as to say that this can be done in every instance, or that all cancers are necessarily of parasitic origin, one is justified by these results in at least maintaining that some cancers are positively of such origin. If, upon this experimental ground, one should infer that all cancers are parasitic manifestations, he would do, as will be seen, little violence to the laws of logic." Indeed, the opinion of a majority of those who have most closely studied the subject, is that the cancer is due to a micro parasite, the nature of which is so far unknown, but that it differs from any species of bacteria, or micrococci so far discovered. We can readily believe from the number and character of the men now investigating this subject, in both clinics and laboratories, that the question will not long be an unsettled one.

DIAGNOSIS.

Diagnosis, in the later stages of cancer of

the breast, is always plain, but in the early stages it is often very difficult, and will tax to the utmost the skill of the surgeon. Early cancer may be mistaken for inflammatory conditions, and *vice versa*. The following symptoms may enable one to make the distinction:

In *inflammation*, there is pain and tenderness on pressure; in early cancer, there is no pain or tenderness. When in later stages there is pain in cancer, it is sharp and lancinating; the pain of inflammation is throbbing and pulsatile. Dimpling of the skin, while not absolutely pathognomonic, is much more liable to occur in cancer. If it happens to be present in inflammatory swelling, it usually marks the site of an old scar. In inflammatory trouble, the breast is enlarged; in cancer, it is smaller than natural; in both, a certain amount of fixation exists, but this is more marked in inflammation than in the early stages of cancer. In inflammation, the swelling is diffuse and spread over a large space; in cancer, the swelling is nodular and better defined. Enlarged veins denote cancer; slight oedema of the skin indicates suppuration. During lactation, true tumors are rare, but inflammation common. Enlargement of axillary glands occurs in both conditions. They are found in three or four weeks in inflammation, and in four or five months after the commencement of cancer. In inflammation the diseased glands are larger, more numerous, and quite tender on manipulation.

It is sometimes difficult to distinguish cancer of the breast from *tuberculosis of that organ* in its early stage. Both may appear as a single nodule about the size of a hen's egg. In both diseases, the upper and outer segment of the breast is the most common site. In both, the disease at first is painless; in neither is the contour of the breast changed. The skin is normal in both; the outline of the tumors is ill-defined, as a rule, in both, and feel as if they were merged into the surrounding gland tissue. Both are characterized by chronicity, and develop insidiously. In both, retraction of the nipple is sometimes found.

After a short time, however, in the tubercular disease, and often before the surgeon sees the case, the mass has broken down by caseous degeneration, or suppuration, and ulcerates through the skin, leaving a fistula discharging tubercular pus. When this is the case, the distinction is easily made. In tuberculosis, the axillary glands are soon affected; indeed, the primary disease is often in the axillary glands, and the breast tuberculosis is secondary. The glands in the axilla soon suppurate and dis-

charge. In tuberculosis of the breast, the whole organ appears larger than the opposite gland; in cancer, the diseased breast is smaller than its fellow. Breast tuberculosis is rarely, if indeed is ever, primary. A careful examination will reveal tubercle somewhere else in the body. Tuberculosis occurs in young adult women; cancer in women over forty years of age.

In cancer, the axillary glands do not suppurate, nor do fistulae form. In all cases, where possible, the aid of the microscope should be employed to determine the nature of the formation.

Syphilis of the breast may be mistaken for cancer, but other evidences besides gummata of the breast would be present and decide the nature of the disease.

A small hard neoplasm, not well defined, with puckered or dimpled skin, retraction of nipple, or bloody discharge from nipple, with the whole breast and tumor looking smaller than the other and sound organ, mean cancer.

Cancer may be confounded with *cyst or cold abscess*. A cyst and cold abscess usually are well defined and fluctuate. Neither have enlarged glands or puckered skin. Any one familiar with the cardinal symptoms of breast carcinoma will be able to distinguish it from sarcoma, adenoma, or villous papilloma. If, however, the case is doubtful, an exploratory incision may be made, and the true nature of the swelling determined. The nature of the doubt should be explained to the patient, and her consent obtained to perform a complete operation: if the growth be found malignant. An anæsthetic should be given, and every preparation made to do a radical operation if found necessary. The exploratory incision should be large, as it is impossible to get much satisfaction out of a small incision or an exploratory punch.

TREATMENT.

The opinion of those best qualified to judge, that cancer, in the beginning, is a local and not a constitutional disease, makes early operative treatment of the first importance. A radical operation, well performed, before regional infection has taken place, gives a most favorable result. Operations undertaken after regional infection exists, or operations not well or thoroughly done, are almost always followed by rapid recurrence. It was the late or imperfectly performed operations, or both of these causes, that made the older surgeon's statistics so bad; that caused them to despair of a possible cure; and that induced one of the most

distinguished among them to declare he operated only for the moral effect. It is acknowledged that complete hysterectomy for cancer of the cervix, before lymphatic involvement, very often permanently cures the patient. This is more because the operation is radical than because of the locality of the cancer; but hysterectomy is regarded as a somewhat difficult operation, and only the more skillful surgeons attempt it, while nearly every surgeon or medical practitioner in the city or country believes himself competent to remove a cancerous breast. The truth is, to remove the whole of the disease in cancer of the breast requires a bolder and a better surgeon, a more profound knowledge of anatomy, than to remove the uterus along with the tubes and ovaries.

English and American surgeons were the first to call attention to the inadequate operations which, until recently, were being performed for breast cancer, and to the writings of Charles Moore, and Banks, of Great Britain, and to the younger Gross of Philadelphia, the surgical world is profoundly indebted. In Denmark, Germany, and Austria, the teachings of Moore were accepted, and with improved results.

Unfortunately, a large number of the cases of cancer that the surgeon sees come to him when the disease has made great progress; when local and regional infection, or general dissemination, make the removal of the whole disease impossible. When such is the case, it will be better to resort to palliative measures. The patient, when the case was incipient, possibly avoided, for the time, even an examination, much less entertained the idea of an operation, and her medical man, out of sympathy or ignorance, or both, encouraged her to let it alone or paint it with tincture of iodine. Now with speedy and certain death before her, she is willing to accept any risk for the chance of a cure or prolongation of life. To operate in hopeless cases only adds to the list of unsuccessful statistics and brings surgery into disrepute. In cancer of the breast, the rule should be to remove all, or none, of the disease. The smallest fragment, microscopic in size, if left unremoved, possesses the power of proliferation, and will certainly reproduce the growth.

Great age, if accompanied with great debility, may also be a barrier to operation, but old age, without serious senile degeneration, does not preclude operative intervention. Some of the best results that I have ever had have been in old people. If the woman is old, the cancer growing slowly, the operation extensive and hazardous, the surgeon may properly decide to

let it alone. The extent of regional and local infection must also be considered. Can the whole disease be removed and the large wound healed? The decision is often difficult. Cachexia alone should not be a barrier to the operation. I have repeatedly seen cachexia disappear, when its cause—the cancerous tumor—was taken away. If there is a metastatic tumor, an operation is useless; or, if the patient is at the same time suffering with fatal tuberculosis, diabetes, nephritis, or cerebral disease, conservative treatment is alone justifiable.

Cancer en cuirasse is usually so diffused as to make its removal impossible, and, as a rule, such cases should be considered inoperable. Atrophic cancer should be removed with the knife where it is practicable to remove the whole of the infected area, for while usually slow in progress, it is liable at any time to become rapid and spreading. When the case is inoperable, palliative treatment is our only resource. Every means, as far as possible, should be employed to preserve the patient's general health. Directions should be given as to climate, diet, exercise, clothing, etc. Tonics will likely be needed, and iron, hypophosphites, wine, and malt liquors, may be used. When suffering is great, some preparation of opium should be prescribed. No other drug, in such cases, is of value for this purpose. The dose should be large enough to relieve the pain, no matter how great the quantity or frequent the interval required.

If ulceration has occurred, the sore should be covered with gauze, wet with some antiseptic and deodorizing wash, and covered with thick layers of absorbent cotton, retained by plaster or bandages.

Early and thorough removal is demanded in recurrent cancer, as in the original growth. It is interesting and important to know that it has been found that when cancer recurs it is often in some portion of the skin that was left, and was infected at the time of the first operation; or some small pieces of the breast gland unremoved; or in the pectoral fascia; or in the axillary lymphatics.

I only mention the attempt to destroy cancer of the breast by *caustics* to condemn the practice. These agents, while valuable in small epitheliomata, are absolutely inadequate in our present knowledge of the disease under consideration. The courage of profound ignorance alone would induce one to attempt to clean out the axilla with caustics in breast cancer. They possess no advantage over the knife, while they have the disadvantage of be-

ing slow, uncertain in the extent of their action—leaving foul burns difficult to heal—and, unavoidably, are attended with horrible pain, no matter how much opium, cocaine or other similar drugs are combined with them.

The mortality following the complete operation, when antiseptically done, is small—probably no greater than that which has attended removal of the breast alone. Prolongation of life is certainly often effected, and permanent cures not infrequently the result. Volkmann's statements of ultimate results is generally accepted. He says: "I unhesitatingly make this statement for all cancers, that when a whole year has passed and the most careful examination can detect neither a local recurrence nor swollen glands, nor any symptom of internal disease, we may begin to hope that a permanent cure may be effected; but after two years usually, and after three years almost without exception, we may feel sure of the result."

For the technique of the operation, the reader is referred to the more recent works in operative surgery. Halsted's method is by far the most complete and perfect.

SARCOMA OF THE BREAST.

Sarcoma of the breast, in all its different varieties, is not a common affection when compared with carcinoma. Indeed, the breast is relatively less liable to sarcoma than the body generally—9.4 per cent. of the neoplasms of the whole body being sarcomatous in nature, while in the female breast, 3.9 per cent. only are of this character (Williams). While the disease may occur at any period of life, it generally is found in women under thirty years of age, and may be "spindle cell," "round cell," or "giant cell" in form. The first named is the most common, and constitutes about two-thirds of all the cases of sarcoma of the breast. The giant cell is the least frequent. It is not, however, uncommon to find two, or all three varieties in the same tumor. The growth begins in the connective tissue around the acini; and when we remember how much connective tissue the mammary gland contains, we are surprised that sarcoma of that organ is comparatively so rare. As the tumor develops, the acini are destroyed and the ducts distended. The gland tissue undergoes atrophy, and is more or less destroyed. The tumor is sometimes encapsulated, but the capsule is spurious, and belongs to and is a part of the malignant neoplasm.

Round cell sarcoma is soft, extremely vascular, grows with great rapidity, and is the most

malignant of all the varieties. The patient may live for a year or longer, but life is often destroyed in three or four months. The form is sometimes known as *medullary sarcoma*. In the spindle celled variety, local and general dissemination is not so rapid. The tumor is firm to the feel, round, smooth or slightly lobulated. During the evolution of sarcoma, rupture of one of the new formed vessels may take place and blood be extravasated in the intercellular spaces; in this way, blood cysts are common.

Rapid growth is one of the characteristics of all sarcomata, but occasionally a tumor of this nature may form in the breast and remain stationary for years, and then suddenly develop its malignancy and grow rapidly, invading the neighboring structures; or a fibroma or adenoma, which has existed in the breast and been stationary for years, may degenerate into a sarcomatous growth.

SYMPTOMS OF SARCOMA.

When first noticed the tumor may be the size of a walnut, or pullet's egg, soft and cystic, or more firm to the touch, smooth or slightly nodular. The integument over the growth is not involved, but free and movable. When the tumor becomes large, the cutaneous veins are dilated, and only very late in the disease does the skin give way and a fungous mass protrude through it. There is no cicatricial contraction, or dimpling of the skin, as in cancer. There is no pain generally. The sarcomatous tumor is softer, grows more rapidly, and is much larger than carcinoma. There is sometimes a blood discharge from the nipple, but no retraction, as is often the case in cancer. The glands in the axilla are only occasionally involved—one case in six—and when involved, not so hard or immobile as in cancer. The tendency to infiltrate the parts around it, and the disease to become generalized are characteristic. Its rapid growth—for in a year it may become as large as a goose egg—will distinguish it from adenoma, fibroma, or any form of benign tumor. In its last stages, bleeding from ulceration and sloughing is common, and pain may then be great when the chest wall and integument become involved. When this is the case the general health becomes involved, and symptoms of general cachexia present themselves. Metastatic tumors appear more often in the lungs, liver, and brain, but may form anywhere in the body. Sarcoma is disseminated generally by the blood vessels, but occasionally also by the lymphatics, in the glands of which secondary deposits are sometimes found.

DIAGNOSIS OF SARCOMA.

The *diagnosis* of sarcoma, from other malignant or benign tumors, may be made out from the above, but it is not uncommon to mistake sarcoma for an abscess, or the reverse. A soft, smooth, cystic sarcoma may readily be mistaken for an abscess, and an exploratory puncture be necessary to decide the question.

TREATMENT OF SARCOMA.

The *treatment* is early and complete removal. The operation should be as thorough and radical as for carcinoma. The axilla should be opened; the glands, fat, and loose tissue removed. There should be no hesitation in removing skin suspected to be infected, no matter how extensive. Every portion of the mammary gland is of course to be removed, even if sound in its appearance, and the connective tissue around the gland completely dissected away. This gives the only chance of a permanent cure, and the chances of cure are better than in carcinoma. If recurrence takes place the disease should again be removed, more completely, if possible, than at the first operation. It is very well for the operator to feel when sarcoma or carcinoma return after early removal that the first operation was widely and radically done.

It is only fair to say that W. B. Coley, of New York, and others, have stated that they have seen carcinomatous tumors disappear under the influence of repeated injections of a solution of the toxins of bacillus prodigiosus, and Fehleisen's coccus of erysipelas. Some surgeons have reported cures of sarcoma by the use of the toxic product of the latter alone. The question is still unsettled, but there is no reason why such injections should not be tried in cases inoperable from delay, or from the location of the growth.

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THE RELATION OF THE BODY-GROWTH OF THE NEW-BORN TO THE COMPOSITION OF MILK IN ANIMAL LIFE.

By L. H. WARNER, M. D., Brooklyn, N. Y.

The composition of milk amongst various animals and the human being is a strikingly differing one, and heretofore no explanation has been offered. It appears that this difference finds partly a theological explanation in the differing time of growth of the animal or human being. It is, firstly, plausible that the

milk of the rapid growing animals is richer in substances which principally take part in the building of tissues, in albumen and salts. This theory seems to be correct, according to the milk analyses made by Bunge:

Milk.	Albumen in 1,000 Milk.	Ashes in 1,000 Milk.
Human.....	14.	2.2
Horse.....	18.	4.1
Cow.....	40.	8.0
Dog.....	99.	13.1

The human being grows slower than the horse; the latter slower than the cow; the latter slower than the dog. Aside of this fact, the relation of body growth to the composition of milk is thoroughly treated in Bunge's *Physiological Chemistry*, 1887, page 100-101.

To prove the correctness of the above, a number of examinations and comparisons were made, resulting in the verification of the above observation and calculations.

In the following table the time of growth of the human being, of animals, of the albumen, lime and phosphorus contents are given. The amount of chlorides is not given, as they not only serve for the building of tissues, but also for the preparation of secretions, and they play an important part in the sedimentation of the urine.

In 1,000 Parts of Milk.

	Time for doubling weight in days.	Albumen.	CaO.	P ² O ⁵ .
Human ...	180.	1.86	0.0328	0.04276
Horse.....	60.	2.3	0.1236	0.1309
Cow.....	47.	4.0	0.1599	0.1974
Pig.....	18.	6.89	.....	.....
Sheep.....	10.	7.00	0.2717	0.4123
Dog.....	8.	8.28	0.4530	0.4932
Cat.....	5.	9.53	.....	.....

In the following table the standard of comparison is marked 1 for the human being, and calculations are from that upon animals:

	Comparison of time for doubling of weight.	Comparison of Albumen.	Comparison of CaO.	Comparison of P ² O ⁵ .
Human ...	1.	1.	1.	1.
Horse.....	$\frac{1}{3}$.	1.2	4.	3.
Cow.....	$\frac{1}{4}$.	2.2	5.	4.
Pig.....	$\frac{1}{18}$.	3.7	.....	.....
Sheep.....	$\frac{1}{10}$.	3.8	8.	9.
Dog.....	$\frac{1}{8}$.	4.45	14.	10.
Cat.....	$\frac{1}{5}$.	5.1	.....	.....

This rule is also acceptable for individual growth, as has been proven by Weiske and

Kennepohl. (*Journal für Landw.* Bd. 29, S. 451.) Milk obtained during the first few days after birth is extremely rich in solid matter. The average composition of mother's milk for the first few days after birth of its offspring is as follows (*Pfeiffer: Kinderheilkunde* Bd. 20, S. 359.):

In 100 gr. Milk.

	1st and 2d day after birth.	3rd to 7th day after birth.	8th to 14th day after birth.
Albumen.....	8.6	3.4	2.5
Fat.....	2.4	3.1	3.1
Sugar.....	3.1	5.4	5.4
Ashes.....	0.37	0.26	0.26

After eight to fourteen days, the amount of albumen decreases to 2.5 per cent. It remains thus during the first three or four months, and after that falls to 1.6 per cent. Corresponding to this we find that the growth of the human being is most during the first eight weeks, as is shown by the following table. (Cammerer.):

Average Daily Growth in Gr.

3d, 4th week.	6th, 7th week.	9th and 10th week.	11th & 13th week.	15th week.	16th to 19th to 22d week.
40.	30.	26.	20.	22.	19.

The maximum of daily increase in weight reaches its height during the third to fifth week, where the daily increase consists of 1 per cent. kgm. With the lessening of the albumen decreases the increase in weight; and the relative daily growth during the middle of the first year amounts to only 0.39 per cent. of the total body weight.

The same conditions as found in the human being are found in sheep. During the first three days after birth the maximum increase in weight takes place, as the previous table shows. The amount of albumen in sheep's milk at the first day after birth amounts to 18 per cent.; and after that, it gradually decreases.

MILK ANALYSES.

The following tables give the most important milk analyses made according to Hoppe-Seyler. The estimation of fat was made with the Soxhlet fat extraction apparatus; the ash analyses according to Bunge's method:

Human Milk (Mother's Milk).

(*Recherches sur le lait* par M. N. Gerber.)

Results of Fifty-four Analyses.

Albumen	1.86 per cent.
Sugar	6.57 "
Fat.....	3.48 "
Ashes	0.21 "

Horse's Milk—Five Analyses.

Albumen	2.33 per cent.
Sugar.....	6.1 "
Fat.....	1.14 "

Colostrum.

Albumen	7.43 per cent.
Lactose anhydrid ..	4.36 "
Fat.....	2.05 "

Ash Analysis on 1,000 Parts Milk Gave:

CaO	1.236
MgO	0.125
P ² O ⁵	1.309
Fe ² O ³	0.015
K ² O	1.045
Na ² O	0.139
Cl	0.308

Cow's Milk.

Casein	3.7 per cent.
Albumin	0.3 "
Fat.....	4.5 "
Sugar milk	4.5 "

Ash Analysis upon 1,000 Parts Gave:

CaO	1.599 per cent.
MgO	0.210 "
P ² O ⁵	1.974 "
FeO ³	0.0035 "
Cl	1.697 "
K ² O	1.766 "
Na ² O	1.110 "

Sheep's Milk.

Casein. .. }	7.00 per cent.
Albumen }	
Sugar	4.22 "
Fat	10.40 "
Ashes.....	1.02 "

Pig's Milk.

Casein	6.89 per cent.
Fat.....	6.89 "
Sugar.....	2.01 "

Dog's Milk.

Casein	3.88 per cent.
Albumen.....	2.56 "
Milk sugar.....	3.67 "
Fat.....	13.02 "

Ash Analysis on 1,000 Parts.

Ca ² O ..	4.53 per cent.
MgO ..	0.196 "
Fe ² O ³ ..	0.019 "
P ² O ⁵ ..	4.932 "
Cl.....	1.626 "
K ² O ..	1.413 "
Na ² O ..	0.806 "

Cat's Milk.

Casein	3.11	per cent.
Lactalbumen	5.96	"
Lactalbumin	0.46	"
Fat and organic acids	3.33	"
Sugar milk	4.91	"
Ashes	0.585	"

Human Being.—The average weight of the human being at birth is 3,000 grammes in girls, 3,150 grm. in boys, and increases from the first to the twelfth month, averaging 27, 30, 26, 28, 19, 16, 14, 12, 11, 9, 7 and 6 grm. *per diem*. At the end of the year the weight is from 9,100 to 9,450 grm. According to this, the weight has doubled within six months from birth.

Horse.—The average foal weighs from 50 to 52 kgm. In two months its weight has doubled.

Cow.—The average new-born calf weighs 35.5 kgm. In six and a half weeks its weight doubles.

Pig.—The statistics of gain in body-weight of the new-born pig gave the following results:

Jan 27th.	1,625	grm.	<i>Incr. in wt.</i>
Feb 5th.	2,000	"	375 grm.
" 8th.	2,375	"	375 "
" 12th.	3,000	"	625 "
" 15th.	3,375	"	375 "
" 19th.	3,875	"	500 "
" 23d.	4,560	"	685 "
" 27th.	5,280	"	690 "

The doubling in weight takes place within eighteen days of its birth. Average daily gain, 117 grm.

Sheep.—The new-born sheep doubles its weight in ten days. Daily increase, 330 grm.

Dog.—The new born puppy, according to its race, doubles its weight in from six and a half to nine days. Daily increase, 48 to 146 grm.

Cat.—The new-born kitten doubles its weight in five days. Daily average increase, 15.8 grm.

From these statistics, a positive knowledge as to the composition of the necessary daily food for man should be obtained.

According to Voit and Pettenkofer, the adult working-man of 70 kgm. weight, doing nine to ten hours' daily work, needs the following food compositions:

	When resting.		When working.
Albumen	137.	grm.	137.
Fat.	72.	"	173.
Carbohydrates.	352.	"	352.
N.	19.5	"	19.5
C.	283.	"	356.

According to Moleschott:

Albumen	130	gr.
Fat	40	"
Carbohydrates.....	550	"

It is admitted that the human system daily requires more than 100 grm. albumen.

It is to be mentioned here that the different requirements of albumen between the infant and adult are as follows:

The infant needs more albumen, as it has to build up tissue; the adult only needs sufficient to maintain a certain amount in his or her organism.

It is, therefore, that the sexual functions are to be considered as body-growth—as "body-growth above the limitations of the individual." The quantity of the latter is not estimated. The infant needs more fat than carbohydrates, because it has a relatively larger body surface. The adult needs more carbohydrates, because he or she does so much more active work.

88a Third Place.

URICACIDÆMIA AS THE CAUSE OF HAY FEVER AND ASTHMA.*

By JOHN DUNN, M. D., Richmond, Va.

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Repeated failures through several years to cure hay fever by treatment applied directly to the nose membranes, even when these were the seat of hypertrophies, polypi, etc., led me finally to tell patients suffering with this trouble that while their discomfort could be lessened by removal of the diseased conditions present in the nose, this local treatment would have no effect in preventing a recurrence of the hay fever. The pollen hypothesis had seemingly so many points in its favor that I was unwilling to admit that "hay fever" could be merely symptomatic of a more or less definite condition of the blood.

Bishop's book and papers first turned my attention to the connection between hay fever and uric acid. Haig's work on Uric Acid made a clearer understanding of this connection possible.

The following case was the first to lead me to examine more carefully than ever before into the possible *causative relationship* between

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uricacidemia and both hay fever and hay asthma:

Mr. A., aged 46, consulted me in the winter of 1897 in regard to his nose. "Doctor, I want you to burn my nose. It is the only way in which I can get relief." This was the patient's introduction of himself to me. I asked him what was the matter with his nose. He told me it was "tight as a drum and pained him, that he could get no air through it—could not get his breath." He was constantly blowing his nose, and was evidently suffering considerable discomfort. "Why do you want it burnt?" I asked. "Because I get more relief in that way than in any other. In the past few years I have suffered almost constantly with my nose, which I have had burnt twenty or twenty-five times, and I have had something sawed out of it, but it has grown up again. I have a catarrh powder, which relieves me for a few minutes at a time." Examination of the nose revealed the turbinated membranes as swollen and tense as numerous old scars caused by the electrocautery would permit them to be. There existed, however, some free air space in this nose, through which he could "not get a breath of air." This fact, that there existed free air space in a nose which gave the sensation of being entirely closed, is one I have frequently noticed, especially during asthmatic attacks. I declined to burn these membranes. I then inquired into the diet of Mr. A., who weighed 250 pounds, and found that it consisted almost exclusively of meat and quantities of beer. Regulation of the diet, with administration of alkalies, afforded entire relief from the distressing nose symptoms without any treatment of any kind being applied to the nose membranes, which, on the old hypothesis that the source of the disease lay in these swollen turbinates, would have required extensive reduction, either through the aid of acids or the cautery. Three weeks ago, Mr. A. reported that his nose still remained comfortable.

The results obtained in this case of perennial hay fever were duplicated in the case of Mrs. F., aged 35, who for years had suffered from hay fever, whose manifestations were as a rule severest in the late spring months. Attention to her diet relieved the hay fever within a few days, and far more completely than any intra nasal treatment to which she had subjected herself. A letter from her husband, received October last, states that the relief obtained has been permanent.

It must be understood here that both Mrs. F. and Mr. A. have continued to follow the advice given them in regard to diet, etc.

When the regular hay fever season came in

August, the influence of diet in the causation of hay fever and hay asthma was clearly demonstrated in several cases, some of which I shall here mention briefly.

The first case was that of Miss L., aged 16, who for several years had suffered severely from autumnal hay fever, which this year had been accompanied by asthmatic attacks of such severity that the greater part of the night before she was brought to my office had been spent in gasping for breath. Examination revealed a typical hay fever condition of the nasal membranes, which were swollen, *pale*, and the seat of profuse clear secretion. In places the turbinates touched the septum. Posteriorly, the middle turbinate, on the left side, at its end formed a huge whitish cedematous swelling, polypoid in appearance, which was jammed so tightly against the septum that a snare wire could not be forced between them. There was a general cedematous and puffed condition of all the portions of the turbinates visible by posterior rhinoscopy. The young lady's eyes were red and watery. In short, there were present all of the conditions which those who believe in the mechanical origin of hay fever would rejoice to find, hoping by their removal to cure the disease. I next asked Miss L. what she had eaten for breakfast that morning. "Ham and bread," was her reply. "And for supper last evening?" "Ham and bread." "Were you helped to ham more than once?" "I suppose I was, as I am very fond of it." "What did you eat for dinner?" "Ham and bread again. I cannot touch any vegetables but corn and sweet potatoes, and I do not care for any meats except ham and veal." She drank tea and coffee sparingly. Such a diet as the above for a girl of sixteen, who spent the greater part of her summer days idling about the house and reading, could but produce systemic derangement, and here it caused hay fever and asthma, as the sequel proved. A small portion of the swollen posterior end of the middle turbinate was removed with the cold snare. No other nasal treatment was given. The patient was forbidden to taste meat of any kind, and to omit the use of tea and coffee. Twenty drops of the saturated solution of the iodide of potash after meals, three times a day, were prescribed. At the end of a few days the nasal condition was markedly improved, and a week later the nasal membranes had returned to their normal condition. The puffiness and cedema had disappeared, as had the asthma and nasal discomfort. Even the huge swelling of the posterior end of the middle turbinate was no longer present.

The next case has additional interest in that it brings up the *question of the action of pollen as a cause of hay fever*.

Miss C., aged 17, in the summer of 1893, consulted me in regard to a slight deafness, which had resulted from otitis media chronica, caused by post-nasal adenoids in childhood. I found the nose normal, save for slight puffiness of the turbinates, which I deemed it unnecessary to treat. In the summer of 1897 Miss C. wrote me that she was suffering from a summer cold, which caused her nose to run continuously, and which was most annoying. Not recognizing the nature of the trouble, I sent her a prescription for a boric acid and aristol snuff, the drying qualities of which I knew to be excellent in certain forms of mucositis.

In August, 1898, I had the opportunity of visiting the home of Miss C., and was asked to again prescribe for her summer cold, which proved to be an attack of hay fever. The house in which Miss C. lived was in a fertile part of Virginia, and the fields about the house showed a luxuriant growth of rag-weed (*ambrosia artemisiæfolia*). Miss C., when asked about her diet, said she ate meat three times a day and drank tea or coffee, as much as wished, at both breakfast and supper. A vegetable diet, without tea or coffee, and the use of the iodide of potash, caused a cessation of the hay fever within a few days, and this in the midst of a hot, dry spell, when the rag-weed pollen in the air must have been abundant.

In the same house was a gentleman who, at the same time, was suffering from hay fever and continued to do so.

In this connection, the case of Mr. A., aged thirty-four, is not without interest. He had suffered every summer from the time he was seventeen until he was twenty-one or two from hay fever, which came on in August and while he was in the country. His descriptions of his sufferings were very vivid. At first it was inexplicable to him how he "could take cold" when the thermometer was above ninety and under a clear sky. As these attacks came on about the middle of August, and when he was in the country, he attributed the cause to a possible dampness of the house, and yet no other occupant was afflicted as he was. He remembers how "eating a big dinner" would afford him relief for half an hour or so, and how he yielded the more readily to the urgings of his stomach to obtain this short relief. He recalls how much worse his attacks were after eating watermelon.

At length some one told him he had "hay

fever," and that "the pollen of the rag weed was the cause of the trouble." This seemed for a long time a satisfactory solution as to the cause of his "summer cold," especially as his home was in the midst of large wheat fields where the rag weed grew thickly four or five feet high after the cutting of the wheat, and consequently for years he looked upon this yellow flowering plant as his enemy. He gave up his annual visit to the country. He, however, always had an attack of hay fever in August or September, which seemed less severe than those he had had in the country. He noticed as years went by that sometimes he could spend days in a rag weed region and have no hay fever, while, again, its presence in the fields through which he had to pass seemed to bring on his old trouble, even when the hay fever season was over.

After some years, he returned to his country home in August or September, and although the rag weed was there in profusion, he had no hay fever, and he doubted the efficacy of the pollen to produce it. He next heard that hay fever was possible only in a nose the seat of polypi or other diseased conditions. Saying nothing of his "summer colds," he consulted three rhinologists, all of whom told him his nose membranes were healthy and needed no treatment. Such in outline is the hay fever history of Mr. A., a man of considerable intelligence.

During the summer of 1898 I got him to watch carefully the effect of diet on the production or prevention of his old enemy. Examination of his nasal cavities revealed a healthy nose with the exception of some tendency to undue puffiness of the inferior turbinated membranes. Mr. A. ate meat only occasionally, and gave up entirely coffee and tea, with the result that his hay fever symptoms were very mild, and their occasional appearance could seemingly always be referred to his departure from a vegetable diet.

The next case is one of *hay fever with asthma*. Mr. F., aged 28, a tobacconist, in his attention to business not infrequently would remain in his shipping office at work the whole night through. His custom was to eat his meals hurriedly and hasten immediately to his work. This mode of living had produced an anæmia, which from year to year was accompanied by hay fever and severe asthma. Mr. F. has been under my care from time to time for several years, during which I have had occasion to remove a few small polypi from the region of the middle turbinates. My treatment, except that applied to the nose, had been general, and

with no recognition of a possible dietetic origin of the trouble.

About the middle of August, 1898, he called at my office one morning suffering greatly from asthma and a profuse watery discharge from the nose. He gave the following history: "Last Sunday I ate heartily and afterwards took a long bicycle ride. On my return I felt badly, and my mother brought me a glass of some very sour wine, and told me to drink it, saying it might make me feel better. I did so, and early next morning my trouble began, and I have been growing worse ever since." Examination of the nasal cavities revealed no abnormalities save the characteristic œdema and watery, anæmic appearance of the puffed membranes. There were no polypi present. The septum was straight. Acting on the supposition that uricacidæmia was the cause of the trouble, Mr. F. was treated accordingly, and in a few days entire relief was obtained. No local treatment for the nasal mucous membranes was given.

It is of interest to note here that Mr. F.'s father accompanied his son to my office. He was lame and walking with a stick, and, on looking at his feet, I saw that from the right shoe the greater part of the upper had been cut away. "Gout?" I asked. "Yes, this attack has lasted now for some time. When I was a young man I suffered from asthma just as my son now does. Since the gout first attacked my toe, now a good many years ago, I have never had an attack of asthma."

I have notes on another case in which the appearance of gout was followed by complete cessation of an asthma of many years' standing.

Other cases, and similar to those above, might be given, but will be omitted.

This last case contains an important feature and one that might be overlooked. About three years ago Miss P., aged 18, was brought to me for treatment for excessive spells of coughing and asthma, which had then existed three or four years, and were growing constantly worse. In no case I have ever seen were the attacks of coughing as prolonged, as frequent, as persistent or violent as here. There had been no relief obtainable at any season of the year. Examination of Miss P.'s chest revealed nothing of note. Faucial and post-nasal tonsils were both normal. The entire air spaces of both sides of the nose to the level of the middle plane of the inferior turbinates were filled with polypi from the ethmoid. The patient lived some distance from Richmond and could come for treatment only at infrequent intervals. For three years Miss P. has

been under my care, and during these years it has been necessary to remove the greater part of the ethmoid masses of both sides, for the polypoid degeneration affected not only the surface membranes but the air cells, forcing the inner shell of the ethmoid above the middle turbinate against the septum nearly its whole length and blocking the entrances to the sphenoid sinuses. With a great deal of patience, having from time to time to wait for weeks between operations on account of loss of blood, and often finding new areas of the ethmoid involved as the field of operation healed, in the spring of 1898 I finally cleared the nose of almost all of the visibly diseased tissue. The attacks of coughing had greatly lessened the frequency, as had the asthmatic attacks. I had told Miss P. that I believed I could cure her if she would have patience, and she had surely furnished through all the treatment she submitted to unlimited supply of both patience and faith. The coughing spells and the asthmatic attacks, after I had removed all of the visibly diseased nasal tissues, and had made, necessarily, large air passages, remained, however, frequent and severe, and no cure, only some amelioration had been obtained. The possibility of uric acid being a complicating factor was, in the late spring of 1898, recognized, and bearing this in mind, under appropriate treatment, Miss F. has steadily improved and passed through the last hay fever season in what she considered great comfort.

During the preparation of this paper, Mrs. P. has consulted me in regard to the worst attack of asthma she has had in years. The cause of this attack was a severe fright, which resulted in great nervous depression.

With the above cases before us, it will be well for us to consider the most widely spread beliefs in regard to the cause of hay fever. The pollen hypothesis has had, and still has, many advocates, and yet frequently fever patients ask, "If my disease be caused by pollen, why is it that —?" the remainder of the question varying and being seemingly unanswerable on this hypothesis. For example, Mrs. C., aged 50, a large full blooded, active woman, has suffered from autumnal hay fever for many years. In 1897, when the season of the year came around for her to have an exacerbation—i. e., the latter part of August—to her delight her nose remained comfortable; yet hardly had she congratulated herself when she was taken with "something resembling a congestive chill, and was desperately ill for a few days.

In talking to Mrs. C. about her case, she told

me of a friend of hers, and a great sufferer from hay fever, who had "had, at the time the hay fever should have come on," a similar congestive attack, and that year she "had escaped hay fever." Considering hay fever as a manifestation of uricacidemia, these "congestive attacks" are susceptible of explanation; considering hay fever as a result of the action of pollen in diseased nasal membrane, we are at a loss to know why the latter case should have escaped hay fever during the season for it, when others in the same region were affected as usual. Again, as in the case of Mr. A., if pollen be a *sine qua non* for an exacerbation of hay fever, why is it that during the hay fever season he will at one time wander with impunity through a field of the rag weed; and at another, proximity to this weed will seem to bring on an attack.

In talking to Mr. A. about his hay fever, he remarked that he had noticed, from time to time, its exacerbations seemed to follow even slight exercise in the hot weather of the late summer and early autumn; that during the hay fever season his skin seemed to perspire freely, but as soon as his gauze shirt would become wet, his body would become cold and his nose membranes would fill and become tight and very annoying. This led him to take frequent daily baths, and always a full cold bath on arising in the morning. This latter he continued winter and summer, and while his hay fever continued to appear in the early autumn, its attacks were much lessened in severity.

Blackley's experiments on the relation of pollen to hay fever are interesting, but his conclusion that the severity of the exacerbation varies with the number of grains of pollen in the air is not borne out by continuous experience. The seeming exactness of the conclusion makes the result suspicious.

It is well to say a few words in regard to the *Local Morbid Conditions of the Nasal Mucous Membrane*.

These, to the rhinologist who would confine the origin of all intra nasal troubles to the nasal cavities and their contents, is the one which appeals most strongly. It is certainly true that in all cases at the time of the exacerbation of hay fever or asthma we find either abnormal or pathological conditions present in the nasal membranes; but that these conditions are the cause of the hay fever has never been proven.

Again, conditions similar to those found in the noses of hay fever sufferers, so far as the eye may judge, exist in the noses of people

who have no hay fever. Or take the visible condition of the nasal membranes during the attacks of hay fever, and during the long months when the hay fever is absent: No advocate of the pollen hypothesis claims that the nasal mucous membrane returns to normal after the pollen season is over. Some claim that curing the diseased, and I suppose that they mean the visibly diseased, intra-nasal tissues cures the hay fever.

Let us examine the visible conditions of the nasal membranes in a few cases of hay fever. Mrs. C., aged 50, above mentioned, has had hay fever in August and September for many years, and it always makes its appearance with an intense itching in a small mole situated on the face about three quarters of an inch from the left ala of the nose. Later, her eyes begin to water, burn, and itch, and then the nasal trouble begins. I have had occasion to examine Mrs. C.'s nose, both during and between attacks; at the latter times I could find no condition existing for which I would, in another person not suffering from hay fever, advise treatment of any kind. The septum is not perfectly straight and regular, but nowhere touches the turbinated tissues, which, save for a moderate amount of puffiness (no hypertrophies), are to all appearances normal. During the attacks, which are of great severity, the swelling is never sufficient to entirely block the air passages.

2nd. The case of Mr. A., aged 35, in whose nose the only visible abnormalities were some tendency to puffiness of the turbinates.

3rd. Miss L., aged 16, seen at the height of an attack, turbinates much swollen, the posterior end of the left middle turbinates so much so that, forced as it was against the septum, might, if unrelieved, have been the starting point for one or more polypi. The membranes returned to normal without direct treatment, save removal of small piece of swollen turbinate.

4th. Mr. F., aged 28, had several small polypi springing from the superior turbinate, and some general hypertrophy of the turbinates posteriorly. Removal of the polypi and treatment of the hypertrophies did not prevent the recurrence of the hay fever and asthma.

And, lastly, Miss P., aged 18, in whose case the greater part of the ethmoid bodies had undergone polypoid degeneration. Removal of all the ethmoid tissue visibly diseased failed to relieve save in a measure, the asthma and coughing spells accompanying it.

That nasal polypi alone are not necessarily the cause of hay fever is shown by the

fact that many cases are seen in practice where nasal polypi, even in large numbers, exist without it. That the reverse is true, I think there can be no doubt—viz: that whatever causes the hay fever acts so profoundly on the nasal mucous membrane that changes are brought about which result, from time to time, in the formation of polypi. This can scarcely be denied by any one who has examined many cases of hay fever, for all stages of the development of nasal polypus can be observed.

The cases above mentioned, especially those of Mr. A. and Miss L., seem to show clearly that excessive meat eating may produce nasal troubles which, in no demonstrable particular, differ from the ordinary perennial and autumnal hay fever; that the visibly abnormal conditions and the discomfort accompanying them disappeared after regulation of the diet, shows that what is put into the stomach has far more to do with the causation of some forms of hay fever and hay asthma than has any local morbid intra nasal condition; that during the past hay fever season every case I have seen which would follow out my directions in regard to diet, etc., has been either relieved or much benefitted, and this while continuing to live without change of surroundings, making no effort to escape from "the pollen laden" atmosphere, seems to show that some cases, at least, of hay asthma are food, not pollen, produced.

In regard to the treatment of autumnal hay fever and hay asthma, little need here be said. Where the nasal tissues are the seat of polypi, the latter should be removed. True hypertrophies and obstructing septal deviations and ridges or spurs and synechie, demand surgical interference. The patient, however, should be told that this work is done, not to cure the hay fever, but because it will render the nose more comfortable, and would be required in any case. Physiologically, swollen turbinate tissue no more requires the assistance of surgery or the cautery, in any of its forms, than does the patch of acute eczema or the oedematous ankle of Bright's disease. The application of the cautery to the turbinated membranes, swollen in an exacerbation of hay fever and as the result of uric acid irritation, may give the patient some temporary comfort, but does not cure the hay fever, and does actual harm. During the exacerbation, a camphor-menthol-albolene spray will give considerable relief. One's success in the prevention of the attacks of autumnal hay fever and in lessening their duration and severity when present, will de-

pend, however, first of all, upon one's recognition of the facts that it is the result of improper eating and living; that it is neither necessarily the result of visible morbid intranasal conditions, although these may exist, nor of the action of pollen, although dust and pollen may have their influence in increasing the severity of the intra-nasal irritation; and, lastly, that hay fever, although the nasal irritation may originate, does not depend upon a "neurotic condition" or an "idiosyncrasy."

Considering hay fever as the result of uric acidæmia, the dietetic treatment should be accordingly. It is of first importance that our patient should give up altogether eating meat for some time before and during the hay fever season. Such articles of food as raise the acidity of the blood and thus prevent the excretion of the uric acid present in the blood, should also be forbidden.

Haig has shown that meat, inasmuch as it contains uric acid, is the article of food which, if used in excess, and especially if taken with substances such as wines, beef tea, coffee, etc., which raise the acidity of the blood, will sooner or later produce uric acidæmia. Repeated attacks of uric acidæmia bring about irritations and inflammatory conditions in various parts of the body, and also in time produce changes whereby the power of excreting not only the uric acid introduced into the blood with the food, but that produced in normal tissue metabolism, is weakened.

This latter should be borne in mind, as it helps to explain why the attacks of hay fever are, as a rule, more easily controlled by regulating the diet and by the administration of alkalies and tonics in the case of young than of older people. I am convinced, however, that the deleterious effect of a meat diet in the causation of uric acidæmia is not solely due to the uric acid it contains, for this is relatively small in amount. Meat contains elements that stimulate tissue metabolism. This metabolism results in the production, among other things, of uric acid. If, now, this uric acid be for any reason not excreted, but retained in the blood, uric acidæmia results. For calling my attention to this point, I am indebted to Dr. J. S. Wellford, of Richmond, Va.

Coffee, tea, cocoa, acid wines and beer are, besides meat, the chief articles of food forbidden by Haig. Coffee, tea and cocoa have for their active principles substances identical with uric acid, and thus, used as food, not only raise the acidity of the blood, but add uric acid to the amount already present in the blood. Acid wines and beer, which is also acid, not only

raise the acidity of the blood, but result in increased tissue metabolism, which, as above stated, means increase in uric acid. Heat does both of these things, and adds its quota of uric acid. Eggs increase tissue metabolism. I do not mean to convey the idea that these substances should be forbidden to all the world as articles of food, but I do wish to say that in the treatment of uricacidæmia, we should bear these facts in mind and make use of them accordingly; for we shall meet with patients where the strictest avoidance of all the above mentioned articles will conduce greatly to their well being.

If our patient is seen a few weeks before the hay fever season begins, and will follow our suggestions in regard to diet, exercise, bathing, etc., then, in young people, a mild tonic is all the additional treatment necessary; if the young patient come under our care first during the hay fever season, an alkali in the beginning in considerable doses will be required. In older people, the success of such treatment, while striking, is not always successful. Why? Probably because after repeated attacks of uricacidæmia, when the general tissue changes are great and when the power of excreting uric acid has been lessened, it is not unlikely that a sufficient quantity of the uric acid formed in the normal tissue metabolism is retained in the blood to bring about uricacidæmia. It is important to bear this in mind, or we may attribute our failures to the wrong cause. As a rule, the older the patient the more he has lived up to the notch of a meat and acid diet, the more difficult do we find the hay fever exacerbations to control.

In cases of perennial hay fever and asthma due to uricacidæmia, our problem is vastly more complicated, for we are dealing with conditions of the blood, in which precipitation of uric acid takes place with great ease, and in many of these cases tissue metabolism is so imperfectly accomplished that the result is conditions which perpetuate a chronic uricacidæmia. The question is, then, no longer simply one of a meat or a vegetable diet, with the administration of tonics or alkalies. We have to regulate the organs which excrete uric acid and thus prevent its undue accumulation in the blood. We have to restore the normal tone to general tissue metabolism which regulates the condition of the blood, and at the same time the relative ease, or difficulty, with which uric acid is precipitated into the tissues. Anxiety, fright, overexertion, want of proper bodily exercise, interference with the functions of the excretory system, whether through causes, or-

ganic or functional, food, the relative constituents of which are unsuitable to the mode of life, and many other things, to begin to mention which would take us too far afield, all have their influence in bringing about uric acid precipitation.

Moreover, in these cases, there usually exists marked nasal disease, the removal of which, as thoroughly as possible, is of first importance.

Thus we see the problem of affording relief may be vastly complicated. It is not, however, always so, and if we bear in mind that hay fever and asthma are but manifestations of uricacidæmia, and treat our patient accordingly, while we may have failures, we shall also have successes.

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THE PRESENT NECESSITY OF VACCINATION TO PREVENT AN EPIDEMIC OF SMALL-POX.

By CHARLES O'DONOVAN. M. D., Baltimore, Md.

It would be a work of supererogation to call attention to the necessity of having every child properly vaccinated, and revaccinated after a term of years, were it not for the fact that all sorts of fads seem to be rampant at present—many of them harmless, but to me by no means innocuous.

Among the latter, and at the head of them, deserves to stand the anti-vaccination fad, a delusion and snare so dangerous that it must be fought, tooth and nail, from the time that it makes its appearance. To the ordinary student of medicine, or even of history, no fact stands out more clearly than the wonderful efficacy of vaccination as a prophylactic agent against small pox; but a small minority of the human race have persistently refused to recognize the wisdom of using the remedy, though often admitting the fact of its efficacy. Like all "fad-dists," these anti-vaccinationists, by persistent talk and writing, appealing to all the passions that man can feel, have succeeded in keeping alive a medical heresy that should long since have died of inanition. If the injury to the human race that has followed this insane propaganda could be confined to the authors of the evil, one might be tempted to say that the trouble would work its own cure; but as the disease which is spread as the result of their obstructive tactics is probably the most contagious of all diseases, its ravages travel far beyond those who offer themselves as its voluntary victims and cause death to spread abroad

amongst the ignorant and negligent who have remained unprotected.

That small-pox is a most contagious disease, cannot be denied. In the time before the introduction of protective vaccination, nearly every one suffered from it at some period of life, for it attacks all ages alike; and the disease entering a town or village, would depopulate it. Every one who could flee to some distant place to escape the infection, often carried within himself the germs of the disease, and so spread the contagion. Neither rich nor poor escaped it, nor could the strength or weakness of an individual be relied upon to give immunity. The only immunity was gained by a previous attack; if this had been survived, exposure to the disease again brought no terror. But how many survived? From 30 to 50 per cent. of those seized were doomed; and those fortunate enough to escape death were, in most cases, disfigured for life. Who thinks now of small pox in such a light, as a scourge of such universal prevalence and such fatal effect?

With the introduction of vaccination, about a century ago, its ravages began to be limited, till now we think of it as something not likely to affect us at all—some trifling danger that need not be reckoned with, as a "back number" disease, which we have outgrown and which we need not fear. It is this very carelessness that, in large measure, keeps the disease alive. Were it possible to vaccinate every individual in the world, the entire race would be rendered immune, and the disease would probably disappear.

This is unfortunately not to be hoped for. In the cities where competent and painstaking health officers have seen to the proper vaccination of each member of the community, small pox has often disappeared; but the feeling of security so engendered has always led to carelessness in vaccination—parents being prone to postpone it for trivial reasons, or forgetting all about it, and so a crop of children has grown presenting a fair field for the development of the disease if it should be introduced from elsewhere. Also, the immunity conveyed by vaccination is known to run out after an indefinite term of years. We are unable to say how long it lasts in any given case, though that may be discovered when we can apply methods similar to the Widal serum test to this disease, but experience has taught that while, in many instances, the immunity is lifelong, in others it has been lost after six or more years.

This makes it advisable to vaccinate after

the lapse of that time, as a safeguard that may have been required. Although complete immunity may be lost through lapse of time, still a successful vaccination in infancy will so modify small-pox, should it be caught, that the death rate is much reduced in those taking the disease, and showing evidence of vaccination. This reduction of the death rate increases with the number of scars to be observed on the individual, showing an ability to minimize the disease, though the time of prevention has expired.

The fact that persons having scars could still take small-pox, is used as the great argument of the anti-vaccinationists, who forget that lifelong immunity is not claimed by physicians, who all recognize its limited duration.

Their other great argument is the danger of spreading other diseases through the means of the material used in vaccinating. It is useless to deny that there has been ground for this complaint. The old method of using the dried scab from one individual as a virus was very objectionable, and is now never to be commended, carrying, as it must, many other organisms in addition to the vaccinia. Syphilis and tuberculosis may have been introduced into innocent victims in this way, but it is very doubtful to my mind, if this happened except by the rarest accident. That streptococcus infection was very frequently the result, must be admitted, for too often have we seen arms manifestly erysipelatous. Still, with the material at hand, the older practitioners did good work, and checked small-pox very successfully. The accidents that they had may now be avoided by using the pure lymph that we possess, which rarely contains streptococcus or other pus organisms, and can be surely safeguarded against syphilis and tuberculosis.

It is not at all necessary for a child to have an arm enormously inflamed and a huge scar as the result of vaccination; this is almost surely an invasion of streptococcus, and may be no true vaccinia at all. On the contrary, successful vaccination may lead only to a very slight systemic disturbance, with a small vesicle at the abraded spot, which becomes umbilicated and pustular—drying and separating as a scab with little or no discomfort to the individual. This should be the normal course of the disease, and shows that a pure lymph, free from deleterious germs, has been used.

Active competition amongst the various producers of lymph has compelled them to be so careful and cleanly in producing it, that most of the sealed glycerine lymphs now obtainable are free from all pus organisms.

Thus, the argument against vaccination from fear of infection with other diseases, falls to the ground.

Let every physician, then, urge this protection upon those with whom he comes in contact, and whenever he can, let him aid his local health board in its efforts to stamp out small pox. There have been no severe epidemics of the loathsome disease in the United States for several years, and a new crop of children has grown meanwhile, many of whom are fit subjects when once exposed to the disease. This winter there has been more of it than for a long time, and reports are published in the medical journals and daily papers which show that it is prevalent in isolated cases over wide areas of country, chiefly in the South, and along the Atlantic Coast. It is true that epidemics begin—many cases, unless minimized, arising from a single one. Introduced into a community, it will rapidly blaze up unless fought to extermination from the first. Of its extreme contagiousness, there are too many proofs. Some years ago, at a variety show in Baltimore, an actor appeared, doing his part in about ten minutes on the stage, and only on Monday night, as he felt very unwell. The next day he was ill in bed, and by Wednesday the case was dignified as small-pox. The utmost publicity was given to the matter in the daily papers, and every one who had by any possibility come into contact with him or had been at the theatre, was advised to be vaccinated. From that single exposure, amongst those who had been at the theatre on Monday night, a number of cases—fifteen, I believe—developed, and several died. A general vaccination followed throughout the city, and the threatened epidemic was aborted. Osler mentions, in his *Practice of Medicine*, that small-pox was brought to Montreal by the porter of a sleeping car, and as a result, there was a general epidemic, and more than three thousand people lost their lives—the French Canadians having an invincible repugnance to vaccination.

This is just now one of the serious problems that we must face. The seeds of the disease are disseminated all over the country, and we must be always vigilant and alert, each in his own community, to prevent the very possible development of an epidemic of small-pox. Vaccination must be insisted upon, and prompt isolation provided for every case as it develops.

This is best obtained in the wards of an isolation hospital, if in a city; but if such a hospital does not exist, the utmost care must be

given to the attendants and surroundings of the patient. If the health board is not in a position to carry out the general vaccination, volunteer physicians must be called for to assist in the work, which should be thorough and systematic, leaving no soil for the development of the disease.

10 E. Read Street.

HEADACHE—OCULAR AND NASAL.*

By JOSEPH A. WHITE, A. M., M. D., Richmond, Va.

Professor of Eye Diseases and Associate Professor of Ear, Nose and Throat Diseases, in the University College of Medicine, Richmond, Va.; Surgeon to the Richmond Eye, Ear, Nose and Throat Infirmary; Member of the American Ophthalmological Society; The American Laryngological, Rhinological and Otolological Society, etc., etc.

Headache or neuralgia, intermittent or constant, periodical or continuous, is one of the annoying pathological conditions that confront the practitioner at every turn in his professional work. Its etiology is frequently a problem as hard to solve as any abstruse question in astronomy. Remedy after remedy fails to give relief, and both patient and physician are in despair of ever getting rid of what, for want of a better name, is denominated "nervous headache or neuralgia." And yet this term, chosen at random, designates exactly what it is, a reflex irritability of the tri-germinal branches from easily explained causes, which have only been thoroughly investigated by specialists in the last twenty years, although occasionally referred to by some writers during the last two centuries. I do not propose, therefore, to discuss any new proposition, but simply to submit well known facts to refresh the memory of those who know as much of this subject as I do, and to arouse the attention of others who may have overlooked them. If you will recall your professional reading to mind, very few of you can remember many references to the influence of eye and nasal troubles in the production of headache. Even in the text-books on eye and nasal diseases, except in a limited number issued in the last few years, little or no importance is attached to this subject. It is true that in speaking of "asthenopia," headache is sometimes given as a symptom, but no special stress is laid upon it. As short a time back as 1888 (only ten years), Corning's book on headache and neuralgia, although dedicated to a prominent oculist, practically excludes

*Presented to the Tri-State Medical Association of Virginia and the Carolinas in session at Charlotte, N. C., January 18-20, 1899.

the eye and nose in the etiological consideration of the subject. It seemed to me, therefore, an eminently practical matter to bring the subject before this body of busy and intelligent medical men, who meet together to receive and impart information that might prove of mutual interest and benefit to them or their patients.

We constantly meet with cases of headache in persons of all ages, which, with a little careful questioning, can be traced directly to its startpoint in the use or abuse of the eye, because it occurs only when the eyes have been used continuously at close work; and as a further confirmation of this diagnosis, there is no discomfort when eye work is discontinued. Moreover, the eyes themselves give other symptoms calling attention to them, such as smarting, congestion, and soreness. All of us are familiar with such cases. It is the ordinary picture of asthenopia or weak eyes, whether due to refractive or muscular defects. It is these cases, to which the older text-books referred, when headache was mentioned at all as one of the consequences of laborious eyework; yet, in some of them, medical observers were led astray by the severity of the head symptoms into attributing them to cerebral causes.

When the headache is frontal or temporal, and is accompanied by unmistakable symptoms of eye trouble, and can be shown to follow upon use of the eyes, few physicians will make an error in diagnosis; although, even when we have such a clearly defined clinical picture, I have known cause and effect confounded, inasmuch as the patients have been told that the trouble was malarial, rheumatic or stomachic neuralgia, and that the weak eyes were caused by the pain (?).

But many of these cases are far from clearly defined. When we meet with subjects of chronic cephalalgia, especially with pain in the parietal and occipital regions, or with frontal and temporal neuralgia, accompanied by stomachic disturbances, we are not apt to look to the eyes as the starting point of the trouble, especially if vision is apparently perfect, and there are no local ocular symptoms to guide us. I have seen hundreds of cases of headache from latent eye defects who never thought of their eyes in connection with this trouble, because of their vision, and only had their attention directed to this possible cause, after all treatment failed them, by some one who had gone through the same experience. Frequently these subjects are dyspeptics and suffer from habitual constipation, or are of rheumatic habit with excess of uric acid, deficient excretion of urea, and

defective liver action, and in consequence the physician is led further from the true source of the trouble, in ascribing it to these apparent causes. Again, we meet with subjects where both physician and patient are at first satisfied that eye trouble, probably some marked refractive error, is the cause; and being disappointed because its seemingly perfect correction does not give the expected relief, at once eliminate the eyes from any further etiological consideration and branch out in other lines in the search for its causation. Eye strain, causing local or reflex discomfort, comes at times from so many differing ocular conditions that the expected results are not always achieved by even the perfect correction of the more pronounced defect. Temporary relief is often obtained, to be followed later on by a relapse from the irritation set up by the slighter uncorrected error, whether of refractive or of muscular equilibrium. Moreover, these defects are frequently grafted upon a neurotic constitution that readily responds, by reflex nervous disturbances, to the slightest local irritation, and, unless all the trouble is thoroughly corrected, no permanent result is achieved.

The ocular causes of headache, neuralgia, etc., etc., are either defects in the shape of the eyeball, refractive errors, so-called, such as near sight, far sight, or irregular refraction (astigmatism); or lack of proper balance in the muscles that move the eye (muscular error); or both combined. As the latter, for the most part, depend upon the former, they are usually associated, although we often find refractive errors without interference with the muscular equilibrium, and occasionally defective muscular balance without refractive errors. Hence it is that the *adjustment of glasses* does not always cure the reflex effect, even when apparently the restoration of vision is perfect.

Swanzy, in the last edition of his book, says, "Astigmatism (*i. e.*, people who have an irregular refractive condition of the eyes) frequently suffer from headache due to constant effort to see distinctly, and we cure the headache when we correct the astigmatism." Whilst, in the main, this statement is true, it is not invariably so, because these subjects are sometimes sufferers from imperfect muscle balance, which does not adjust itself, even after the correction of the optical error, which might have been its primary cause. In the perfect adjustment of the muscular defect, as well as the correction of the optical error, lies the secret. And yet many ophthalmologists overlook this point, due to the fact that lack of muscle balance may be latent, being concealed by the tension

of the recti muscle, just as refractive errors, especially far sight and far sighted astigmatism, may be latent, concealed by tension of the ciliary muscle. It sometimes requires the most persistent and repeated efforts with prisms to reveal it, especially if the defect is a lack of accurate levelling of the two eyes, or so-called hyperphoria. I have seen cases of one or two degrees of hyperphoria that manifested not the slightest trace in the ordinary examination with the phorometer (an instrument of precision arranged with rotary prisms to measure defects of the ocular muscles), just as we have all seen cases of far sight and low grade far sighted astigmatism that could not be improved in vision by any glass, as it was already perfect. The use of a mydriatic, however, promptly reveals the latter defects, by depriving the accommodative muscle of its excessive tension and power of correcting the defect; but the artificial double vision, given by the *horizontally* placed prisms in the phorometer for the detection of hyperphoria, does not always relax the undue tension of the superior and inferior recti, which conceals the muscular error.

Strange to say, this very rarely applies to the *vertically* placed prisms, as the deviation of the eyes in or out, known as esophoria and exophoria, are almost invariably detected by this means. In fact, as exophoria, or outward deviation of the eyes, is often an expression or result of the defective vertical balance, caused by the latent hyperphoria, its presence is sometimes the only clue we have to the existence of the latter; and especially is this true, if, when measuring the strength of the internal and external recti by prismatic exercises, we find they both approximate the normal standard, notwithstanding the apparent outward tendency. I have a case in my mind that came to me several years ago from a distance, a young woman of neurotic tendency, who had long suffered from persistent headache, for which all kinds of treatment had been instituted, not neglecting the uterus in the general search for the cause, but without avail. A suggestion that her eyes might be a factor in her trouble brought her for examination. I found low grade astigmatism with oblique meridians, and felt satisfied its correction would relieve her. It did, but the effect was not lasting, and inside of two months she was back again. The phorometer gave me no encouragement to hope that I would solve the problem, as there was apparently no lack of muscle balance; but when testing the strength of the superior recti with vertically placed prisms, I found such contradictory results in

different sittings that I was confident there was some hyperphoria. I made her wear a prism with base up before one eye for several days, when the defect became slightly manifested; but in a few hours after taking off the prisms, there was a reestablishment of the muscle balance. After two weeks of this experience, I decided to cut the superior rectus of the apparently higher eye. I did a partial central tenotomy, and on using the phorometer to see the result, found a still greater degree of hyperphoria manifested because of the traumatic disturbance of the artificial tension of the vertical muscles. I increased the effect at once until the eyes were levelled. All discomfort disappeared, and up to this time, several years after, she has had no further trouble. This case shows how difficult it is at times for even an expert to make a positive diagnosis.

Refractive cases are equally puzzling at times. Even when the correction of the defect is apparently all that could be desired, after a thorough examination under a mydriatic, with resulting perfect vision, headache will persist. This is due sometimes to neglecting to incorporate a low grade cylinder for a correction of a slight astigmatism with the spherical lens, whether in far sight or in near sight, but especially in the former defect, and this is particularly the case when the astigmatic meridian slants or is oblique. The greatest care is required in the adjustment of such a cylinder, because if it is not exactly in the correct axis, there will be no relief. It is astonishing at times what a slight variation in the position of the cylinder will make or mar the result as far as comfort is concerned, although the variation of vision may be imperceptible. Repeated subjective examinations, the astigmometer and retinoscopy all must be brought into play to give the most harmonious results.

It is these cases of slight refractive errors, especially if combined with latent defective muscle balance, that present the greatest difficulties. I have seen many patients whose lives were made miserable by constant pain in the back and top of the head, whose vision was perfect, and with eye muscle balance apparently normal; and yet the pain was due to eye strain, from the unintermitting effort to keep vision perfect and the muscle balance normal by overcoming a low grade astigmatism and a slight muscular error, as in the case above referred to. In some, glasses alone give relief; in others, prism exercises are required; and in a majority of them, adjustment of the muscle balance by operation is necessary.

It is curious that the most marked refractive

errors and the most decided muscular defects, amounting even to strabismic deviation, are not the ones that give the most trouble in regard to headache, neuralgia, etc. It is true that headache frequently results from the effort to overcome high degrees of far sight and astigmatism, and also from the excessive demand upon the converging muscles in marked near sight. But these cases are usually those that give most satisfactory results from proper adaptation of glasses, either spherical, cylindrical or prismatic. Occasionally, however, we find the muscular defect out of all proportion to the refractive error, amounting sometimes to latent double vision (which becomes manifest by placing a red glass over one eye), or even to the abolition of binocular vision, and this, too, without any *apparent* deviation of the eyes from parallelism. You can easily understand how great the strain on such eyes may be, and the natural irritation that must arise from the continual effort to coalesce or ignore the double images in the field of vision.

If time permitted, I could give many interesting examples from my case-book of these conditions. I will refer to one, however, because of its interesting features and its satisfactory result.

It was a married woman, the daughter of a physician, who had been a great sufferer for years from sick headache, which she attributed to an annoying form of indigestion, called by her physician "nervous dyspepsia," and which compelled her to confine herself to the most rigorous diet. She had a decided refractive error, accompanied by defective convergence, amounting at times to double vision without apparent outward deviation. The correction of the optical error by glasses improved her vision and allowed her more latitude in the use of her eyes, but with slight modification of her attacks of headache. I advised her to allow tenotomies to be done to correct the muscular defect, and she consented to the operations. The result was the correction of the muscular error, the cessation of the headache, and the restoration of good digestion, all the symptoms of so-called nervous dyspepsia having disappeared. They had evidently been manifestations of a reflex nervous disturbance emanating from the local irritation caused by the eye strain.

Sometimes I have cases referred to me suffering from recurring frontal headache, pain in the top of the head, or neuralgia of the first or second branches of the trigeminus, supposedly caused by some ocular defect, especially when the pain, as it often does, involves the eyeball itself, as well as the surroundings of the orbit.

The most critical examinations of the eye fails to reveal the slightest optical error or defective muscle balance, practically excluding the eye from being the causation, and necessitating investigation in another direction. What is more natural than to look to the upper air passages, so richly supplied by branches of the trigeminus, as a possible location for the origin of the disturbance in the domain of this nerve, whether congestive headache, migraine or neuralgia? If a person has neuralgia in the lower jaw, you do not go to the lower end of the spinal column to look for its causation. Even if there is no local pain in any special tooth, you would naturally expect some trouble of the teeth, and look there first for the possible origin of the irritation in the domain of the inferior maxillary. Is it not logical, therefore, to search, first at home for the trouble in the domain of the other two branches of the trigeminus—namely, in the ocular and nasal regions? If the eye fails to show any cause of the irritation, it is not unwise to explore the nose and post-nasal space. So many head pains originate from these two centres of irritation that, their causation being demonstrated and corrected, we will have only a minority of cases of uncertain origin left to lay at the doors of imperfect digestion, malaria, rheumatism, uric acid, etc. So many facts in support of this statement are recorded in latter-day medical literature, that it is useless to argue it. As I said before, I wish merely to recall these facts to your recollection.

A careful examination of the nasal spaces will, in many of your cases of headache and neuralgia, only confirm these facts, and often, too, when the patients repudiate any suggestion of nasal trouble.

Every one who has ever had a bad cold in the head, knows he can have both headache and neuralgia as an accompaniment or result of the nasal obstruction. These pains in the forehead and face are the reflex effects of the direct pressure and irritation of terminal branches of the trigeminus through its ganglionic connections. For example, it is a common experience for a patient to complain of frontal headache and pain in the upper teeth as the almost immediate effect of an application of chromic acid to the middle turbinate, even under cocaine anæsthesia, and sometimes as a result of merely touching the turbinate with a probe. In the same way, a very small point of irritation in the nose or naso-pharynx, from hypertrophies, spurs, adhesions, etc., could bring about reflex pain in the head and face either intermittent or constant; and these pathologi-

cal formations can exist in the nose without any obstruction and without any other local symptoms to call the patient's attention to them. Hence, often the disclaimer of any nasal trouble. But many are fully conscious of nasal trouble manifested by imperfect breathing, the occasional or continual obstruction of one or other nostril, or a discharge from the nose, or a constant desire to clear the throat. Examination may reveal the presence of adenoid tissue at the roof of the naso-pharynx, or thickenings of the nasal tissues, causing contact or pressure in the nostrils. Adenoids and nasal obstruction of any kind have been shown to be a fruitful source of headache and neuralgia. I do not mean to say that all people who have such nasal changes, have headache or neuralgia. This would be as far from correct as so state that all people with refractive or muscular eye troubles have headache. In neither case would it be true. But I say, of people who suffer from headache and facial neuralgias, a very large number will find the source of irritation in the eye, or in the nose and naso-pharynx. Why some people suffer from reflex manifestations and others do not from the same causation, is not easy to explain. Theoretically, we may conclude that it is due to the difference in the condition of the reflex centres which, in the one case, are for some reason below par and incapable of resisting the influence of peripheral irritation; and in the other, being absolutely normal and not susceptible to the same influence. Constitutional causes which lower the resistance of nerve centres, such as malarial and rheumatic changes, imperfect digestive apparatus, excess of uric acid, etc., may undoubtedly help to keep up the malign influence; but after the train of symptoms has once started, the source of local or peripheral irritation must be done away with before constitutional treatment avails.

As already stated, when there is trouble with the eyes, the error must be corrected by the proper adaptation of glasses, by prismatic exercises or by surgical operations to adjust the muscle balance.

When the causation is presumably in the nose or naso-pharynx, we must look for the pathological alteration that is the starting point of the irritation. If adenoids are present, they should be curetted; if simple hypertrophy of the turbinates, it can be reduced by applications of acid (chromic or glacial acetic), although sometimes it is necessary to remove it with the snare. The most troublesome cases are those with dense hypertrophy of the middle turbinate, resulting in pressure on the septum

and frequently adhesions, usually of an osseous character, between them. These adhesions must be done away with either by means of the saw, drill, cutting forceps or otherwise, and the enlarged turbinate removed. Blenorrhœa of the ethmoid spaces is often an attendant complication, and adds to the difficulties. The treatment is consequently tedious, but is often satisfactory, even in these worse cases, and eminently so in the simple ones.

In addition to the local treatment, both topical and surgical, we must attend to any existing dyscrasia or constitutional disturbances, whether of the digestive or circulatory apparatus, and especially correct any tendency to lithæmia, by regulation of the diet and appropriate remedies.

This regulation of the diet and habits, as well as the choice of remedies, whilst differing according to individual traits in each case, should be directed to strengthening the *reflex centres*, and thus not only confirm the immediate result achieved by the local treatment, but to keep up this good effect and prevent relapses by the improvement of their powers of resistance.

200 East Franklin Street.

CASE OF TYPHOID FEVER, COMPLICATED BY PULMONARY TUBERCULOSIS.

By WM. B. FRENCH, M. D., Washington, D. C.

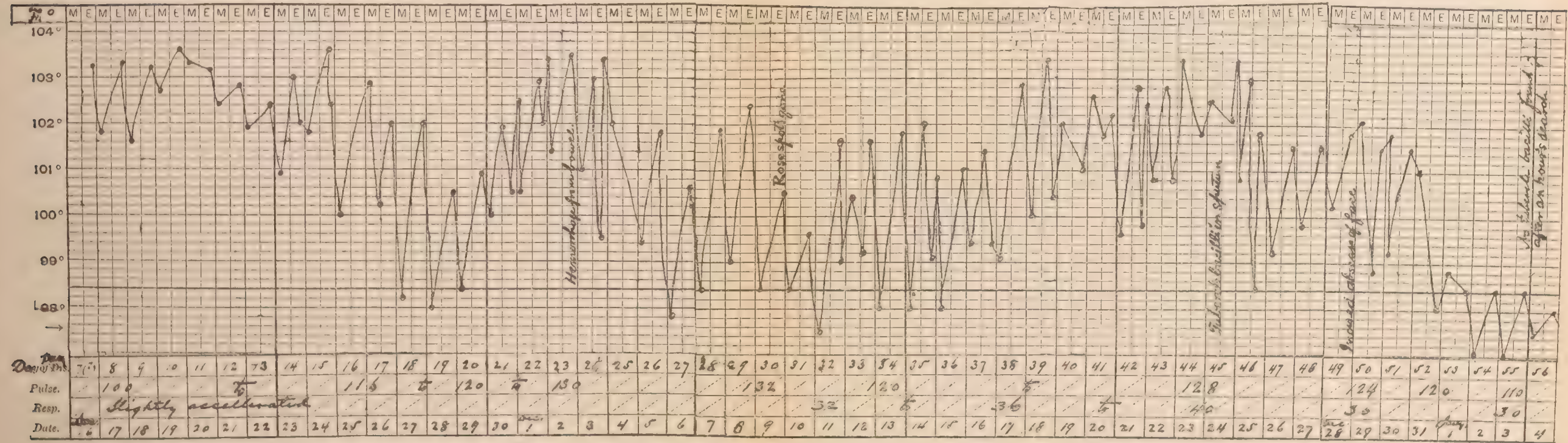
I desire to report a rather interesting case of typhoid fever which had a number of complications; but especially one complication which is generally considered, I believe, a very formidable matter. The patient was a young woman, between 30 and 45 years of age, whose health had been excellent except for an acute attack of rheumatism, mainly confined to the right hand and fingers, some two or three years previously.

First saw her about the 11th of November, 1896, and found what might be either typhoid fever or malaria. The symptoms were not definite, and it was four days later before I satisfied myself of my diagnosis. Several examinations of the blood for the malarial parasite were negative, and at that time I did not have Vidal's reaction to help me. However, the patient was put to bed and given the benefit of the reserved diagnosis until the disease developed sufficiently for me to know what conditions I had to treat. During the first week in bed, probably the second week of the disease, there was nothing of more than usual interest,

CASE OF MISS C.—Typhoid Fever Complicated by Pulmonary Tuberculosis—Recovery.

Began treatment November 16, 1896.

Reported by Dr. W. B. French, Washington, D. C.



In January, 1899—two years after recovery—patient is perfectly well, with no evidence whatever of lung trouble.



The temperature ran along from 101° to $103\frac{1}{2}^{\circ}$ and began to decline about the fourteenth day for two mornings, but rising to 101° to 102° again at night. At this point, instead of beginning convalescence, as I had hoped, there was a steady rise of temperature for four days, when a hemorrhage from the bowels occurred, followed by a gradual descent of the curve for another four or five days, making a distinct but short relapse of eight days' duration. Except for a slight quickening of the pulse, the loss of blood, which was moderate in amount, seemed to do no mischief.

At the end of this relapse, the twenty-eighth or twenty-ninth day of the disease, I again looked for beginning convalescence, but was disappointed. The temperature for the following eight days was quite erratic, varying from subnormal to 102.5° F., morning and evening respectively, when it again began a steady ascent for ten days, and reached its maximum of 103.5° F., after which it gradually declined to normal and below in seven or eight days more, and final convalescence began after eight and a half weeks of fever.

At the end of the fourth week, and at about the time of the disappearance of the rose spots, after three weeks of more or less active delirium, the patient became rational. A slight, but frequent cough appeared, and an examination of the anterior part of the lungs showed the upper left lobe to be full of moist râles. Respirations increased to 36 and pulse to 130, and the sputum showed the pneumococcus—evidently a pneumonia, apparently in the stage of softening. The expectoration was very scant, and I had great difficulty in getting the smallest specimen, but finally I obtained a second one, which had been secured for me by collecting it on a small piece of white cloth. This was about the end of the seventh week.

An examination of it showed numerous tubercle bacilli, and I concluded that the rest would be a short story. On the contrary, conditions very gradually improved except about the fifty-fourth day, when an abscess at the junction of the upper lip with the gum just below the malar bone of the right side had to be incised, and which kept the temperature up for a couple of days. After this, final convalescence was slow, but steadily progressive.

During the attack, there were several symptoms of grave import, namely, an intermittent pulse, feeble and compressible; gasping respiration; hemorrhage; a tubercular pneumonia—and the facial abscess. There was no diarrhœa at any time that was troublesome, nor did

the urine show indications of trouble with the kidneys.

The point I wish to mention specially was the peculiar accident of tubercular infection and its complete disappearance, as far as bacilli in the sputum were concerned, within ten or twelve days. Eventually the lung sounds became normal, the cough ceased, and the patient's weight returned to normal—145 pounds.

I have much curiosity as to the source of the tubercular infection. The family history is entirely free of that disease on both sides, and the patient herself had always been particularly robust looking. Osler says: "Among the dangers of convalescence," referring to typhoid, "may be mentioned tuberculosis, which is said by Murchison to be more common after this than after any other fever. There are facts in the literature favoring this view, but it is a rare sequence in this country."

It is well known that the milk of a tuberculous cow may communicate the disease, even when there is no disease of the udders; but in this case the patient received milk from a dairy which supplied then and does yet an immense number of people. Of course it is possible that the milk was the origin of the infection, but it does not seem to me likely. As far as I could discover by enquiry, the room occupied by the patient had not been previously used by a tuberculous subject, and the nurse and doctor were entirely free of any such trouble.

I should mention that the case reported was followed by a second one in the same house during the late convalescence of the first. The second case, however, was totally different in type, running a very mild well behaved course in about three weeks. Indeed, it was so mild that had it not been for the eruption and the preceding case my diagnosis might have been in doubt. It was with difficulty that I kept my second patient in bed—she also being a maiden of doubtful age, and having more determination than judgment.

506 East Capitol Street.

DISCUSSION.

Reported by Dr. Johnson Eliot.

Dr. Vincent said tuberculosis often follows typhoid fever. In this case, the sputum may have been accidentally infected (?) The abscess upon the face may have been tuberculous by accidental infection.

Dr. Kober spoke, at length, upon the many other sources of infection outside of the milk supply.

Dr. Bovée spoke of a slow form of tuberculosis due to soil deposits

Dr. J. D. Morgan doubted the correctness of the diagnosis of typhoid fever; but in the presence of the rose spots, the hemorrhage, and the temperature not going above 103, thought it might have been a mild attack. Tuberculosis often follows typhoid fever.

Dr. Sprague was interested in the rapid disappearance of the tubercle bacilli from the sputum.

Dr. J. Eliot said he was interested in the case. Has noticed phthisis pulmonalis very frequently following typhoid fever, and in fact, in most affections where the general vitality of the patient has been greatly reduced. There is a form of acute military tuberculosis that presents many of the characteristics of typhoid; there is the tympanitis and diarrhoea, although the temperature curve is not that of typhoid, nor are there rose spots—the cases running rapidly to a fatal termination; whereas the bacillus tuberculosis may put in a sudden appearance; it seems almost impossible for it to disappear so completely in a few days. He is inclined to agree with the other speakers in regard to their presence as due to accidental sources.

Dr. French, in closing, said the abscess could not have been the source of the tubercle bacilli in the sputum, as it was not incised until some days after the bacilli had been found in the sputum. Actual infection of the lungs was present.

REPORT OF A CASE OF APPENDICITIS, COMPLICATED WITH INTESTINAL PERFORATION—RECOVERY.*

By GEORGE W. LONG, M. D., Graham, N. C.

My reason for not attempting a discussion of the diagnosis, pathology and treatment of appendicitis, is simply because I know I am not competent to pass upon it. Information gained, however, from examining work already done by others that are competent authority, and my own limited experience, lead me to believe that it is possible for a general country surgeon, who is simple and clean in his surgical work and methods, who uses his own common sense, and does not try to follow anybody's special method, to add greatly to the conservation of human life. To emphasize this thought, I will briefly give some of the salient points of

a case which recently came under my own observation. The patient was too poor to secure the services of an expert surgeon or to go to a hospital for treatment.

Mrs. T. S., aged 19, colored, mother of two children, consulted Dr. George W. Kernodle, September 12, 1898, complaining of slight fever and soreness over the abdomen, which the doctor suspected might be the beginning of an attack of typhoid fever. Appropriate treatment caused the patient to become much more comfortable, but never so much so as to permit her physician to feel that all was well.

Sept. 19th.—The doctor was called to find her aborting.

Oct. 1st.—She was moved in a wagon, on a bed, half a mile.

Oct. 7th.—Dr. Kernodle called me in consultation. The patient presented a picture, coupled with the previous history, which pointed unmistakably to pus in the right side of the belly. We informed her and her friends that we thought she had appendicitis, and, although the outlook was not promising, the thing to do was to open, at once, the belly, and liberate the pus. Accordingly, with the best aseptic precautions possible, under the circumstances, with our crude environments, under Squibb's ether, a large quantity of foul pus was liberated by an incision several inches long, in the usual locality. At the time, Dr. Kernodle suggested that the pus had a fecal odor. I have to regret that I failed to appreciate his valuable suggestion, as will appear later. Having made several ineffectual attempts to find the appendix, we decided to make a counter opening in the lumbar region. We improvised a drainage tube out of a soft catheter, irrigated with warm saline solution, and packed with gauze. The patient reacted nicely; she was ordered to take light nutritious diet, and to maintain absolute rest in the dorsal decubitus.

Dr. Kernodle resided near by, and gave her all necessary attention for about a month, watching her general improvement. The posterior wound healed up all right, but the one in the abdomen only partially so.

One month from the first operation I was recalled, and in this consultation, we had also the valuable services of Dr. J. L. Kernodle. The discharges from the abdominal wound were decidedly fecal, and Dr. Kernodle informed me that gas and ingested material had been escaping ever since my last visit. We decided to enlarge the opening, and proceeded, under ether, as before, commencing just below the border of the ribs. An incision was car-

* Read before the Tri-State Medical Society of the Carolinas and Virginia, in session in Charlotte, N. C., January 18, 1899.

ried down to and below the McBurney point, opening up, probably, a larger field than an expert would have required. We found a large opening in the lower portion of the ascending colon, with very necrotic ragged edges. The perforation in the bowel was so large that Dr. Kernodle easily carried a large sized sponge in his hand well up into the colon. The appendix was finally found, though with considerable difficulty, ligated about one-eighth of an inch from the cæcum with silk, and cut off. Apparently, it was perfectly normal and healthy. A longitudinal section of it, made at once, revealed two very small substances, possibly the size of hemp seed, which we supposed were enteroliths. The ragged edges of the rent in the bowel were trimmed with scissors, sutured with a common cambric needle, armed with silk, after Lembert's method—the peritoneal surfaces of the bowel being brought together. A warm saline irrigation, a gauze packing, over this, absorbent cotton, and abdominal bandage, to be changed as indicated, bowels to be bound, absolute rest, opiates if necessary, light nutritious diet, dorsal decubitus, constituted the treatment. The bowels acted by enema one week from the operation, and have been moving satisfactorily ever since. The abdominal wound had about healed the latter part of December, which was the last time I saw the case. The cure seems to be all that could be desired. Patient is able to walk about the house, though advised to resume customary work gradually. I was not surprised at finding the perforation in the bowel, especially when I recalled Dr. Kernodle's suggestion in the first operation, but I was at a loss to know how such a fine, healthy looking appendix could be consistent with an appendicitis, complicating intestinal perforation. Whether the removal of the appendix was right or not, is still to me a *questio vexata*.

Doctor Idea of the Revenue Stamp

The *Cherokee Democrat* tells of a doctor who understood that everything issued on or after July, 1898, was required to have a revenue stamp affixed. Hence, he carried a few stamps so as to be ready to obey the law as he understood it. On the first baby born after the above data, he affixed a stamp on the buttocks and duly cancelled it, with instructions to the nurse to let it remain.

A CLINICAL LECTURE.*

(1.) Result of Grafting White Skin on a Black Patient.

(2.) Bassini's Operation for the Radical Cure of Inguinal Hernia

(3.) External Perineal Urethrotomy for Stricture of the Urethra.

By STUART MCGUIRE, M. D., Richmond, Va.

Professor of Principles of Surgery in the University College of Medicine; Surgeon to St. Luke's Home, and to the Virginia Hospital.

WHITE SKIN GRAFTED ON BLACK PATIENT.

Before beginning the regular work of to-day, I wish to exhibit a patient who illustrates the fact that *skin grafts do not always acquire the color of the individual on whom they grow*, and demonstrates the importance of matching the borrowed skin to the adjacent integument in cases of cosmetic work where the result of the operation is in an exposed position. Some of you will remember this negro, whose leg was amputated in the clinic over a year ago. Owing to an effort to save too much of the limb, sloughing occurred in the flaps, and a raw granulating surface resulted, over six inches in diameter. You will recollect that as soon as active suppuration ceased he was brought before you again, and the defect covered by Thiersch's method of skin grafting. Usually skin grafts are cut from the individual's thigh, but in this instance they were taken from the leg of a white man which had been amputated a few moments before. I remember telling you that it seemed a shame to mutilate black skin when so much white skin was going to waste, and expressing my belief, based on the investigations of Karg, that pigmentation would occur and that the white skin would gradually become black. The operation of skin grafting was a perfect success, and the patient was discharged in two weeks with a well healed stump. He comes back for exhibition to-day. The artificially formed skin is firm, pliable and painless, but *as white as the day it was implanted*. Fortunately, owing to its position, it is a matter of no consequence. Had it been upon the face, and had the colors been reversed, there might be a lively suit for malpractice.

REDUCIBLE INGUINAL HERNIA.

The first case on which I will operate is one of *reducible inguinal hernia*. I have not time to

*Abstract of lecture delivered in Amphitheatre of the Virginia Hospital to the students of the University College of Medicine.

discuss its anatomy, varieties or symptoms, and will confine what I have to say to its treatment.

A few years ago the patient would have been advised to wear a truss, and to resign himself to the inconvenience of the apparatus, and to subject himself to the danger of strangulation rather than submit to an operation which was attended by danger, and which gave but little prospect of a permanent cure. To day the perfection of aseptic technique and the introduction of Bassini's method of operating have so reduced the risk to life and so increased the chances of a radical cure, that the opinion of the profession has changed, and those best qualified to advise earnestly urge operative intervention in such cases.

In a normal condition, the inguinal canal contains only the spermatic cord. In inguinal hernia, it contains both the spermatic cord and the hernial sac. An operation aims to constrict the canal so as to prevent the escape of the hernia, but not to obliterate the canal so as to prevent the passage of the cord.

The reason the old operations were failures was because surgeons at first devoted all their efforts to attempts to narrow the external abdominal ring, and when they finally realized the necessity of splitting open the canal and attacking the internal ring, they failed to appreciate or correct the anatomical defect which normally exists in the posterior wall of the canal, due to the absence of all muscular tissue.

Bassini's operation meets all indications, and the results are all that could be desired. It is simple, safe and effective, and is almost universally adopted. The only point upon which differences of opinion exist is the character of suture to employ. Some surgeons use silk; some Kangaroo tendon; some chromicized catgut, and some silver wire. I will describe the different steps of the operation as I execute them.

The patient is prepared as for an abdominal section, the diet being regulated, the bowels emptied, and the skin made active. The site of the operation is carefully sterilized by shaving, by the application of a soap poultice, by vigorous scrubbing, and by the use of alcohol and bi-chloride of mercury.

The patient is anesthetized, and an incision about three inches long is made parallel with and immediately over the inguinal canal. The cut is deepened until the aponeurosis of the external oblique is exposed, which is recognized by the white glistening surface and the direction of the fibres.

The external abdominal ring will be found at the lower angle of the incision, with the

spermatic cord and hernial sac passing through it. The internal abdominal ring will be found at the upper angle of the wound, covered by the aponeurosis of the external oblique muscle. A grooved director is next inserted through the external ring, and carried upward and outward to the internal ring, and the anterior wall of the inguinal canal incised, thus exposing its entire length. The cord and sac are lifted out and carefully separated one from the other. The sac is opened, its contents returned to the abdominal cavity, and the neck ligated with fine silk at the internal abdominal ring—a point flush with the general peritoneum. The empty sac is then amputated a short distance below the ligature, stripped out of its bed and removed.

Now comes the insertion of the sutures, the distinctive feature of the operation, by which the internal opening is changed, a new posterior muscular wall is made, the external opening is narrowed, and the obliquity of the canal is restored. The cord is held to one side by an assistant, and a curved needle, threaded with chromicized catgut, is passed through the conjoined tendon of the internal oblique and transversalis muscles well up towards its attachment to Poupart's ligament. The needle is then carried under the cord and through Poupart's ligament. The suture is tied, and results in bringing the tissues snugly around the cord and placing it in the angle of juncture of the two structures named. The edges of the conjoined tendon and Poupart's ligament are next united by a continuous catgut suture from the new-formed internal ring to their common insertion in the pubic bone. The cord is now placed upon the posterior muscular wall, which has been formed, and the divided edges of the aponeurosis of the external oblique are united over it by interrupted sutures of catgut. The skin is then closed by a subcuticular suture. No drainage is employed. The wound is dressed with a pad of gauze and cotton, held firmly in place by a spica bandage. It will be left undisturbed until healing is complete.

IMPERMEABLE STRICTURE OF URETHRA.

The next case is that of a man with *impermeable organic stricture of the membranous portion of the urethra*, and the operation which I will do for the relief of the trouble is called *external perineal urethrotomy without a guide*. In order that you may understand the nature of the case and comprehend the steps of the operation, I will devote a few moments to the discussion of the condition.

Stricture of the urethra is an abnormal

diminution in the lumen of the canal. It may occur at one point, and then is called single; it may occur at several points, and then is called multiple. It may be due to temporary causes, as irritation from drugs, sexual excesses or abnormal conditions of the urine, and then is called spasmodic stricture. It may be due to permanent causes, as the formation of cicatricial tissue from inflammation due to traumatism or urethritis, and then is called organic stricture.

An organic stricture may occur in either the spongy or membranous portion of the urethra: its gravity is in direct proportion to its distance from the meatus. It may be of large calibre, and permit the passage of an instrument, and is then called a permeable stricture. It may be so tight and tortuous that it will not permit the passage of even a fine filiform bougie, and then is called an impermeable stricture.

Organic strictures are treated by one of two methods: by dilating or by cutting. Dilatation can only be practiced when the calibre of the stricture is sufficient to permit the passage of a fair sized steel bougie. It is carried out by introducing a progressively larger instrument at each sitting, and is successful only after long treatment. Dilatation acts not only by mechanically stretching the stricture, but also by promoting absorption of the cicatricial deposit. The method is free from danger if conducted under antiseptic precautions; does not confine the patient to bed or prevent him from following his usual occupation, and hence should always be tried in suitable cases before resorting to more certain, but more radical measures.

If it is decided to cut a stricture, the operation can be done in one of two ways: by internal or by external urethrotomy. In internal urethrotomy, the stricture is cut from within the urethra by passing Otis' or Maisonneuve's urethrotome through the stricture, and then bringing a concealed knife in contact with the cicatricial tissue.

In external urethrotomy, the stricture is cut from without by making an incision through the skin immediately over the stricture, and deepening the wound until the scar tissue is divided and the urethra opened. In this operation, when the stricture is permeable, an instrument is introduced from the meatus to the bladder—thus locating and fixing the urethra—and the operation is said to be done with a guide. When the stricture is impermeable, and an instrument cannot be introduced, the urethra must be found by careful and often

tedious dissection, and the operation is said to be done without a guide.

The advantage of the internal method is the rapidity of recovery; the disadvantage is the danger from hemorrhage, due to the division of an inaccessible vessel. The advantage of the external method is the certainty of results and the ability to control bleeding by direct hemostasis; the disadvantage is the duration of confinement to bed.

The indications for the selection of the method of operating in a given case varies with different surgeons. My rule is a simple one. Internal urethrotomy in strictures of the spongy or pendulous urethra. External urethrotomy in strictures of the membranous or deep urethra.

The patient before you has stricture of the deep urethra, the result of specific urethritis. Another surgeon has performed internal urethrotomy on him three times within the past year. His failure to give relief has been in the selection of the method, not in the execution of the operation. The patient is now only able to void his urine drop by drop, and his suffering is intense.

I decided, as soon as I examined him, to do an external perineal urethrotomy, and for the past week I have made daily attempts to pass an instrument through the stricture, to act as a guide in the operation, but without success. Some authorities state that no stricture is impermeable that permits the escape of a drop of water, and that an impassable stricture at one end of a bougie may mean a lack of skill and patience at the other. I cannot subscribe to this view, as within the past year I have had four other cases in which retention of water was not complete, and in which repeated, prolonged, and conscientious efforts to enter the bladder failed. In all four cases, I did successfully what I propose to do to-day—the operation of external perineal urethrotomy without a guide.

The patient being anesthetized, placed in the lithotomy position, and the site of the operation thoroughly cleaned, a sound of moderate size is passed down the urethra until it reaches the face of the stricture. The handle is then turned so that the point of the instrument projects in the perineum. An incision about an inch and a half in length is then made directly down upon the point of the sound, and the urethra is opened. Silk ligatures are passed through each margin of the cut urethra, and lateral traction being made by them below, and vertical traction being

made by the tip of the sound above, the wound is opened as a triangle along whose base the lost urethra must be found and restored. All bleeding is carefully arrested by torsion or ligation, and a systematic search begun for the tract, every possible channel being explored with a probe or filiform bougie. At length, apparently more by luck than skill, the proper route is found, a grooved director is passed into the bladder and the stricture cut with a bistoury. The finger is then introduced into the bladder to demonstrate the reestablishment of the channel and to insure the complete patency. A catheter is passed into the bladder for temporary drainage and the wound is lightly packed with gauze.

The drainage is removed at the end of forty-eight hours. For a week or ten days the urine will escape from the incision, but the cut soon becomes filled with granulations, and the continuity of the urethra is restored. Here, as in all other operations for stricture, the results attained must be maintained by the regular introduction of a large steel bougie.

At the next clinic the patient will be brought before you again and a sound passed.

Book Notices.

Annual and Analytical Cyclopædia of Practical Medicine. By CHARLES E. DE M. SAJOUS, M. D., and ONE HUNDRED ASSOCIATE EDITORS. Assisted by CORRESPONDING EDITORS, COLLABORATORS AND CORRESPONDENTS. *Illustrated with Chromo-Lithographs, Engravings and Maps.* VOL. II. Philadelphia, New York and Chicago. The F. A. Davis Co., Publishers. 1899. Large 8vo. Pp. 607. Library Cloth.

This Annual is without doubt the best of all the Analytical Cyclopædias of Practical Medicine that have come under our notice. It is very complete and thorough in its references to important literature on the subjects—alphabetically arranged—of which each volume treats up to the time it goes to the press. While we have no word of criticism to pass either upon the plan of the work nor upon the manner in which subjects are treated, we might express a wish that the volumes were issued in more rapid succession. Thus, this *second volume* includes discussion of all subjects that can be arranged alphabetically between the words "Bromide of Ethyl" and "Diphtheria," *inclusive*. The *first volume*, issued several months ago, considered those subjects which could be alphabetically arranged between "A" and "Bromide

of Ethyl." Now we will have to wait some weeks—perhaps several months—before the *third volume* appears. So that before the alphabetical arrangement is completed, what was said in the earlier volumes will have become old. The editorial work upon this "Analytical Cyclopædia" is superb. A full discussion, or, rather, statement of all the important facts known in connection with the subject under consideration is given, including the most recent up-to-date journal literature relating thereto. So that under each subject heading even more is given than is usually found in the more pretentious text-books—although with less verbiage. The cross references seem to be all first rate. The illustrations—some chromo-engravings or lithographs, as well as woodcuts—are all first class. We value the work very much, and regret that space is wanting in which to give fuller details of its scope, etc.

Practice of Obstetrics by American Authors

Edited by CHARLES JEWETT, M. D., Professor of Obstetrics and Diseases of Children in Long Island College Hospital, New York. *Illustrated with 441 Engravings, 34 of which are in Colors, and 22 Colored Plates.* Lea Brothers & Co. New York and Philadelphia. 1899. 8vo. Pp. 768.

This *Practice of Obstetrics* shows that no expense has been spared to make it the leading work on the subject yet issued in America. The elegance and perfection of the illustrations, the general appearance of the book itself, and the thorough manner in which each item has been treated by the fourteen distinguished collaborators—all combine to reflect great credit upon the publishers and editor—worthy of special mention. The work is an entirely new one, and is "a clear and practical treatise suited to the needs of medical classes," and is especially valuable as the book for practitioners who do obstetric work. Written for the most part by experienced teachers, the descriptions of parts and conditions—aided by the engravings and plates—are more graphic, and, indeed, lead the reader to feel that he is seeing as he reads. The treatise covers every phase of the subject. The anatomy of the parts involved, both maternal and fetal, is accurately given in detail and illustrated in drawings from photographs. Physiological statement and discussion show that these matters are in the hands of the ablest of physiologists. All that relates to diseases and disorders, and to the management of labor itself, shows that experienced clinicians and learned professors are the authors. This book need not have "revised editions." What is taught in it, as it is,

will be practical lessons for many years to come. So that the purchaser now will scarcely find it necessary to buy any early future edition. Beside the editor, the following are the contributors to the pages of this great work: Dr. Elias H. Bartley, Wm. W. Browning, Henry Dwight Chapin, Robt. L. Dickinson, J. Clifton Edgar, Allan McLane Hamilton, Joshua M. Van Cott, and Hiram N. Vinebery, of New York; J. Chalmers Cameron, of Montreal, Canada; A. H. Buckmaster, of Charlottesville, Va.; Edward P. Davis, of Philadelphia; James H. Etheridge and Fernand Henrotin, of Chicago; Walter P. Manton, of Detroit; Chauncey D. Palmer, of Cincinnati, and Hunter Bobb, of Cleveland; J. Whitridge Williams, of Baltimore, and J. Clarence Webster, of Edinburgh.

No practitioner who undertakes obstetric work, can afford to do without this work for careful reading and study.

Editorial.

The Tri State Medical Society of the Carolinas and Virginia

Was thoroughly organized during its session in Charlotte, N. C., January 18 and 19, 1899. The first day's meeting was called to order at 11 A. M., Wednesday, January 18, by the President *pro tem.*, Dr. W. H. H. Cobb, of Goldsboro, N. C. The Committee of Arrangements, Dr. E. C. Register, Chairman, had made provision for the meetings and the comfortable entertainment of the guests. The attendance was something unusual for a Society whose membership is scattered throughout three States—over 50 per cent. of the registered fellowship being present. The Address of Welcome was most cordial by Col. H. C. Jones, and the Response was made by Dr. Hugh T. Nelson, of Charlottesville, Va., in his most happy manner. The Address by the President, Dr. W. H. H. Cobb, concerned itself mostly with the history of the move which brought the Society into existence, and defined its objects and scope, pointing out the possibilities of an organization composed of such men as have signified their intention to contribute to its success. Who knows but that this Society may not become a great Association of the ablest medical men in the Southern States?

This Tri-State Society of the Carolinas and Virginia is organized for the promotion of the consulting interests of the best portion of the profession in the three States named in its title.

It is not intended to supplant any of the State or local medical Societies existing in either of the States concerned. Indeed, the principal requisites for membership are that the applicant shall be known and recommended by a member of the Society; and, furthermore, he shall be a member in good standing in his own State Medical Society. The initiation fee was fixed at \$2, and the annual assessment, *per capita*, was made \$3—thus costing, for the first year, \$5, and \$3 each subsequent year.

The Constitution of this new Society provides for an annual *Committee on Constitution and By Laws*. This Committee is composed of Drs. J. Glover Tompkins, Edgefield, S. C.; George W. Long, Graham, N. C., and Paul B. Barringer, Charlottesville, Va. One of the duties of this Committee is to provide a place for each annual meeting in one or the other of the three States of South Carolina, or North Carolina or Virginia. The Committee accepted the invitation for the next meeting to be held in Charleston, S. C., during February, 1900—the exact day is to be announced in due time.

The officers elected for the current year are: Dr. W. H. H. Cobb, Goldsboro, N. C., *President*; *Vice-Presidents*—one from each of States concerned—are: Drs. Chas. W. Kollock, Charleston, S. C.; Henry B. Weaver, Asheville, N. C., and Wm. L. Robinson, Danville, Va. The offices of *Secretary and Treasurer* were combined, and Dr. Paulus A. Irving, Richmond, Va., elected to the position.

The Constitution also provides for the election of an *Executive Committee*, to be composed of three members from each of the three States—one of the members of the Committee being first elected for one year, another for two years and another for three years. On expiration of the term of each member, his successor is elected for three years. This Committee is at present composed of Drs. S. C. Baker, Sumpter, S. C.; A. B. Knowlton, Columbia, S. C., and J. Glover Tompkins, Edgefield, S. C.; Drs. J. W. Long, Salisbury, N. C.; E. C. Register, Charlotte, N. C., and Jas. A. Burroughs, Asheville, N. C.; Drs. Hugh T. Nelson, Charlottesville, Va.; Wm. L. Robinson, Danville, Va., and A. S. Priddy, Keysville, Va. The President, and the Secretary and Treasurer of the Society are to be *ex officio* members of this Committee. To this Executive Committee is to be referred all business matters relating to the Society—even to the election of its officers, etc. Thus, the General Sessions of the Tri State Society are devoted wholly to the reading of papers or reports of cases, their discussion, etc.

The number of Honorary Fellows at no time shall exceed twenty distinguished American nor twenty foreign members. No one was elected during the recent session.

The proceedings of each session are to be published in the form of an Annual Volume of Transactions.

During the session, *thirty-five papers*—most of them excellent—were presented, and some of them were most ably discussed. Want of space forbids the repetition of titles of papers; but we mention the names of the authors in evidence of their high degree of merit:

Dr. Paul B. Barringer, Charlottesville, Va.

" J. M. Fladger, Summerton, S. C.

" J. N. Upshur, Richmond, Va.

" A. B. Knowlton, Columbia, S. C.

" Louis F. High, Danville, Va.

" James M. Barrott, Kingston, N. C.

" John Dunn, Richmond, Va.

" Rolfe E. Hughes, Laurens, S. C.

" George W. Long, Graham, N. C.

" Wm. L. Robinson, Danville, Va.

" David A. Stanton, High Point, N. C.

" W. T. Woodley, Charlotte, N. C.

" Virginius Harrison, Richmond, Va.

" John F. Winn, Richmond, Va.

" L. G. Frazier, Youngsville, N. C.

" Hunter McGuire, Richmond, Va.

" Hugh M. Taylor, Richmond, Va.

" J. W. Long, Salisbury, N. C.

" Geo. Ben. Johnston, Richmond, Va.

" Charles W. Kollock, Charleston, S. C.

" W. H. Wakefield, Charlotte, N. C.

" J. A. White, Richmond, Va.

" J. Steven Brown, Salisbury, N. C.

" Hugh T. Nelson, Charlottesville, Va.

" S. C. Baker, Sumter, S. C.

" Ramon D. Garcin, Richmond, Va.

" E. C. Levy, Richmond, Va.

" A. S. Priddy, Keysville, Va.

" Wm. F. Drewry, Petersburg, Va.

" H. Stuart MacLean, Richmond, Va.

" D. A. Kuyk, Richmond, Va.

" Stephen Harnsberger, Catlett, Va.

" H. B. Weaver, Asheville, N. C.

" W. J. McAnally, High Point, N. C.

Several of the papers presented by the gentlemen named above were of the highest order of merit. Some of them appear in this issue; others will follow in the next issue.

The entertainments by the local profession were abundant. Indeed, the Committee of Arrangements was untiring in its work. The banquet tendered in honor of the visitors was sumptuous and the toasts were well given and well responded to.

The wonderful success of this "send-off meeting" could not have been accomplished

without indefatigable work and good judgment on the part of the President and the Secretary *pro tem.* selected last September at a called meeting at Virginia Beach. These gentlemen have made the Society what it is—one of the best on this continent.

The Seaboard Medical Association.

The annual meeting of the Seaboard Medical Association of Virginia and North Carolina, which was held in Wilson, N. C., on the 12th and 13th of January, 1899, was a highly interesting one in every particular. A splendid programme was given, and numbered among its contributors some of the leading professional men of both States.

The following officers were elected for the ensuing term: *President*, Dr. Lucien Lofton, Emporia, Va.; *First Vice-President*, Dr. G. G. Thomas, Wilmington, N. C.; *Second Vice-President*, Dr. E. L. Phillips, Suffolk, Va.; *Secretary*, Dr. John C. Redmore, Washington, N. C.; *Treasurer*, Dr. C. O. H. Laughinghouse, Greenville, N. C. The next meeting of this body will take place in Eastern Virginia, and the place and time will be announced later.

Four Hundred Thousand Dollars for Johns Hopkins University.

The Maryland Legislature has voted an appropriation of \$400,000 to tide the Johns Hopkins University over its financial difficulties, due to "the shrink" in the value of some of its securities—especially the B. & O. R. R. stock.

Laughter is (Technically) Cachination.

Good Health, Jan., 1899, says: "When one cachinates well, his diaphragm shakes the stomach well; it is a kind of merry dance; the stomach 'trips the light fantastic toe,' so to speak; and the food is set into such a commotion that the digestive process is thereby hastened. A hearty laugh stimulates the vasomotor centres, and the spasmodic contraction of the blood vessels causes the blood to flow quickly, sending a warm glow to the feet and limbs, and enlivening the stomach into increased activity. There is no better aid to digestion than a merry laugh."

For Coryza, Rhinitis, etc.

R̄ Acid boric (pulv.).	.....	ʒj.
Acid salicylici.	.....	gr. vj.
Antikamniæ (pulv.).	ʒj.
Bismuth subnit.	ʒij.

M. S. Use as snuff every one to three hours, as needed.

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Original Communications.

LATERAL CURVATURE OF THE SPINE AND POTT'S DISEASE.*

By A. M. PHELPS, M. D., New York City.

In presenting this subject to you, I wish to give some practical points which, although not new, must be remembered in order to treat these cases intelligently. It has been but a few years since the treatment of these affections was a bugbear to the general practitioner, who sent every case to the specialist. Now, however, with a better understanding of what they are and their remedy, he attends them himself.

Regarding Pott's disease, any stated paper would take at least a week to read. I shall lay before you some material and a few facts, which will cover the subject well. So many conditions are described as Pott's disease that it is first fitting to say that the true one is tubercular unquestionably; those not tubercular are not Pott's. The disease was described by Pott as tubercular disease of the ends of the bone or cartilages. Following typhoid fever, there may be acute pain from absorption of the results of inflammatory changes in Peyer's patches, but it is septic. Then mycosis may afford opportunities for mistakes, or a child may suffer an injury, an abscess may result with development of septic symptoms, but this trouble is osteo-myelitis, not Pott's disease.

Etiology.—It is a true infection of the bacillus tuberculosis into a focus of previous inflammatory action; that it inoculates tissues not embryonic, is impossible. As the area of inflammation extends inoculation takes place, with a destruction of bone, formerly termed caries, but this term had better be dropped. The disease may attack the intervertebral cartilages. Why is it that of two children receiving an injury one will develop Pott's disease and the

other not? Because the former is strumous. Struma is a condition of the protoplasm making up the ultimate cell; it is a state in which one cell succumbs to germ life and the other resists it. It is born with the child, and is seen typically in the slums of any large city, being imported to this country by the people who lived in the walled cities of Europe. It will take America 1,000 years to grow children free from this condition.

Here is a preserved specimen of the spine [showing it] taken from a patient with Pott's disease, in which one vertebra is destroyed and its neighbors are consolidated, showing the projection of the spinal processes posteriorly. It is typical. Here is one [showing it] of rheumatoid arthritis, which might have been taken for Pott's disease. This illustration shows destruction of the cord from projection of bone into the canal. And here is a case of extreme kyphos, but without pressure on the cord.

Diagnosis.—Lateral curvature differs from Pott's disease in that it is never produced by inflammation or disease of the spinal column except rickets. Positions in utero produce it, as in short leg. Frequently, it is tried to diagnose lateral curvature when Pott's disease is present. It is a symptom of the latter. A diagnosis of this kind would result disastrously, because the treatment of the two differs. It must also be diagnosed from pseudo-hypertrophic paralysis.

Before deformity begins is the correct time to make the diagnosis. (After deformity has occurred it is easy.) In the beginning there is difficult breathing (often treated for asthma or worms). If the child is lifted it will cry. It has "bellyache," and it holds its hand flexed to its side. There never was disease of a joint in which motion was not limited from muscular spasm. If the spine is flexible, it is not Pott's disease; if it is rigid, you may be absolutely certain it is. This boy [exhibiting a negro youth] has a flexible spine, although lateral curvature is present. If a baby has

* Abstract of remarks made before the Richmond Academy of Medicine and Surgery, January 24, 1899.

Pott's disease, and you raise it by its head, it will come up stiff; if not, it will roll up like a ball.

There is always pain (usually anterior) in Pott's disease, but not in lateral curvature. If high up, it is in the chest; lower, in the stomach; still lower, in the abdomen. After the case has gone on, there occurs muscular atrophy and then deformity, but no swelling. On one side the bodies of the vertebræ are absorbed, but on the opposite side they are normal.

There is not a single straight spine in the world; if so, a man would break his head every time he jumped six feet. Every lateral curvature to be cured must have a compensating curve, so as to allow the vertical through the centre of gravity to fall between the feet. In some patients, *e. g.*, those with rickets, the curvature is due to pressure. Ossification is sometimes due to central nerve lesion. Other curvatures may be caused by injury.

Treatment must be based on rational principles. I would treat lateral curvature with gymnastics and a support to remove pressure. Pott's disease is to have the same treatment as a broken leg—*i. e.*, fixation, to give nature a chance to repair.

Lateral Curvature.—Some say that every brace produces atrophy; others, that bracing is all that is required to remove pressure and prevent absorption. Bracing, properly done, does not produce atrophy. A very good plan before beginning treatment is to determine the extent of bone changes. Have the patient to bend forward; then the application of a straight line along the back will show the extent of deviation. Find the size of the vertebræ and then brace. The diameter of the column is usually two inches. If deviation is one-half of this, a mechanical appliance is absolutely necessary to obtain stable equilibrium, producing thus one curve to balance the other.

A child under three years cannot be braced, for the pelvis is too small as compared with the thorax, and the retaining strap will slip. Put on a Sayre's cuirasse or a plaster-of-Paris portable bed. The latter is also of benefit in Pott's and hip disease. I got the idea from observing an Indian squaw carrying her baby.

Regarding spinal bracing, where the band around the pelvis is narrow and small there is tilting. I believe that suspension and then fixation is necessary. The Hessing corset was invented in 1764 and forcible replacement in 1768 and then abandoned, and we will have to do likewise. Sayre was the first man in this

country to make a suitable apparatus for Pott's disease and lateral curvature—the plaster of-Paris corset. Notwithstanding that it is heavy, cumbersome and wears out, it is the best of all braces. He marked a new era in the treatment of these diseases when he suspended the patient and thus removed the pressure. Afterward it was sought to use other materials, and then came leather and rawhide, which proved valueless.

I went to Odessa to learn to make the wood corset, and was pleased with it, but as soon as perspiration occurred, its shape changed and the patient became shorter. Then I invented the apparatus which I here exhibit—*viz.*, the aluminum corset. Its life is from fifteen to twenty years. It was first made in lateral halves, but, proving cumbersome, the duplex hinge was added, and now it can be put on and laced as the ordinary corset. In lateral curvature, with proper gymnastics, it will cure.

The new operation of forcible replacement was used by Hippocrates 500 B. C., forgotten, revived in the time of Amboise Paré (fifteenth century), again forgotten, and finally revived recently. Any authority commenting upon it says the results are too good to be credited. I am very sure that old cases with ankylosis, great deformity or abscess should not be touched. In beginning cases, pushing and then treatment as described before may avail, but the vertebræ must be wired. Even then in two or three years they will be found bent.

DISCUSSION.

Dr. Stuart McGuire said that he had listened with interest and profit to Dr. Phelps' admirable discussion; that the subject of Pott's disease was one of peculiar interest to him, as he had been the victim of the disease during childhood; that he had been a patient of Dr. Lewis Sayre; that he had been the subject of many experiments, and that he believed he was the original case upon whom the plaster of-Paris jacket was applied; that although twenty-five years had elapsed he could remember how Dr. Sayre placed him face downward across his knees, and, by separating his legs and producing extension, thus relieved pain and reduced deformity. This was the inception of a principle now carried out by suspension. That he remembered how Dr. Sayre placed his broad hands on either side of the spinal column, and, by gentle pressure, maintained the correction secured and gave support and immobilization to the back. This was the inception of the principle now carried out by the plaster cast. *Dr. McGuire* said that the first attempt at the

practical application of the brace consisted in laying him upon a table and producing extension by manual traction on his head and feet, and then the application of alternate layers of squares of flannel and wet plaster to his back. This formed a "turtle shell," which was held in place by circular turns of a cotton bandage. Dr. McGuire then outlined the evolution of the plaster jacket, and spoke of its advantages—cheapness and effectiveness, and of its disadvantages—short life and lack of cleanliness.

In regard to the aluminum corset invented by Dr. Phelps, he said that it was a perfect substitute for the plaster brace, combining all of its virtues and having none of its vices; that unfortunately, owing to its cost, it would never be widely adopted, but for the well-to-do it was a luxury which should not be lost sight of.

In conclusion, Dr. McGuire spoke of the muscular atrophy and diminished chest expansion which resulted from the long use of any brace, and of the advisability of taking them off as soon as they could safely be discarded. He asked Dr. Phelps what were the evidences of cure of Pott's disease and what was his rule as to the length of time a brace should be worn.

Dr. J. A. Hodges said he would be glad if Dr. Phelps told the ultimate results of lateral curvature and Pott's disease on respiration, and also the forms of paralysis in patients left untreated. It was surprising that there was not more paralysis resulting from destruction of the vertebræ and from pressure on and degeneration of the spinal nerves.

Dr. George Ross reported the following case: A theological student went coasting the hill-side and caught cold. He was unconscious of having sustained an injury, and yet in a few days he found himself unable to walk up the steps. His feet were leaden. He was placed in the hospital of the school, where he remained for six weeks. No improvement following the treatment advised, he was sent to a hospital in Baltimore. Paraplegia with myelitis was diagnosed, and a fatal prognosis made. Two months of observation failed to warrant a change of opinion, and the patient was sent home to die. Being the family physician, Dr. Ross was summoned to see the patient, and found him with thighs flexed on the abdomen, knees close under his chin, limbs in spastic rigidity, emunctories paralyzed, and pains excruciating. The history furnished seemed to warrant the conclusion that the case was one of acute ascending myelitis, with paralysis from pressure. Months rolled by without material change

other than the advent of girdle pains of the abdomen and chest and harassing bronchial cough, with difficult asthmatic breathing and repeated threatenings of impending suffocation. Then there appeared a swelling near the cervico dorsal vertebral junction and a culminating abscess, which was lanced. It was long in healing, and, though naturally to be looked for, there is no record of necrosing bone escaping from its cavity. The presence of this abscess proved clearly to his mind that the case was one of Pott's disease of the upper dorsal vertebræ. No mechanical appliance was at any time used, and the reliance for treatment rested solely on spinal counter-irritants, constitutional reconstructives and supportives and an intelligent dietary. The surprising outcome of the case is that to day, though deformed by a posterior upper dorsal curvature, the patient is healthy and vigorous, and, while engaged in no special work, is quite competent to do many things.

Dr. Phelps said, in closing the discussion, that the mode of manufacturing the aluminum corset was to extend the patient and apply the bandages so as to make a plaster cast. This was cut off, stuffed with oakum and plaster-of-Paris, after which shellac was applied to the stuffing. Sheets of the softest aluminum were laid on the mold and shaped with a wooden hammer. It was then coated inside and out with white shellac and alcohol to prevent the action of perspiration. He said he had hope that as time progressed the apparatus could be made and sold at a lower price.

How aptly Dr. McGuire tells of Dr. Sayre! The orthopedic hand is the best brace made; it can mold the corset to fit, and is in partnership with all the ideas conducive to best results.

The indications of cure are the same as those of hip joint disease. Here I never remove the brace until the limit of movement is increased, and so I do in Pott's disease, which is never cured in less than three years.

Atrophy is always produced by degeneration of the nervous end plates in the muscles. Braces do not produce atrophy. If a brace gives room in front there is no interference with the play of the chest.

The wire corset does not support as it should. Patients using it are two inches taller when placed in a plaster corset. The aluminum cast fits the patient like a French corset.

A complete cure cannot be produced in lateral curvature, because the ribs overlap, the intercostal muscles are shortened and the spaces

obliterated. The ribs cannot be separated except by means of the knife, and if this is used the patient dies.

Concerning paralysis, I will venture to say that from 15 to 20 per cent. of patients afflicted with Pott's disease manifest it at some stage, it varying from involvement of groups of muscles to total paralysis. Of the estimated 20 per cent. 95 per cent. will recover without operation from the complication; the remainder will not. It is not always due to bending; sometimes it is from involvement of the canal, producing thickening and pressure myelitis. In some cases I have seen tubercular meningitis; in others penetration of an abscess. My observation is that those cases attended by bladder and rectal incontinence never recover, but I have seen recovery where these organs were only irritated.

Dr. Ross' case was one of osteo-myelitis recovering without treatment, but this should not be an argument against treatment.

EPILEPSY—INSTITUTIONS FOR THE CARE OF EPILEPTICS.*

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Were I to read before the Medical Society of Virginia a paper on the "State Care of Epileptics," it would be as a "twice told tale," but as the matter has probably not been presented to the profession of the Carolinas, I offer that as my apology to the Virginia contingent of this audience for again writing on this subject.

Before passing to the main object of this paper—viz., to review the progress that has been made in the matter of public care of epileptics—permit me to present, in a rather cursory manner, some observations on the history, prevalence, cause, pathology and treatment of epilepsy.

It is a disease of great antiquity. It has probably affected mankind almost from the time that our first parents were driven from the Garden of Eden. Certainly as far back into ancient times as authentic medical records go, we have mention of it.

Euripides gives such a clear description of its symptoms, that one is convinced of his familiarity with the disease. We find mention of it in the works of Galen, Hippocrates, Cel-

sus, Plato, Aretæus and other renowned writers among the ancients.

The father of medicine, though practising in the fifth century B. C., when the whole subject of disease was wrapped up in the greatest superstition, was a man of scientific attainments. He speaks much on the order of modern psychiatrist. Hear him on the "Sacred Disease," as epilepsy was known in that day:

"The sacred disease appears to be nowise more divine nor more sacred than other diseases; but has a natural cause from which it originates like other affections. Men regard its nature and cause as divine from ignorance, and wonder because it is not at all like other diseases. * * * They who first referred this disease to the gods, appear to me to have been just such persons as the conjurors, purifiers, mountebanks and charletans now are. Such persons, then, using the divinity as a pretext and screen for their own inability to afford any assistance, have given out that the disease is sacred, adding suitable reasons for the opinion, and they have instituted a mode of treatment which is safe for themselves—namely, by applying purifications and incantations, and enforcing abstinence from baths and many articles of food which are unwholesome to men in disease. This disease is formed from those things which enter into and go out of the body, and it is not more difficult to understand and cure than the others; neither is it more divine than other diseases. Men ought to know that from nothing else but the brain come joy, despondency and lamentation, and by the same organ we become mad and delirious."

In the New Testament, we read descriptions of the classical symptoms of epilepsy as well as insanity. A troubled father pleads for mercy for his afflicted son, "For oftentimes he falleth into the fire and oft into the water." Some authorities, notably Origen, believe that the "thorn in the flesh," which was a source of so much anxiety to St. Paul, was epilepsy. Among the ancient Romans, it was a disease of much ill omen. In fact, all along down the centuries, this dreaded malady was regarded as a mysterious manifestation of the Evil Spirit. The most absurd theories regarding its cause, were advocated by the highest authorities of their time. To "stay the mysterious spell," all manner of ridiculous remedies were prescribed. For instance, a decoction made from the skull of a dead man who had met a violent death, was regarded as a "specific." Snake heads steeped in rum was a favorite prescription. The Romans thought the drinking of human

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blood from a recent wound, an unfailing remedy.

It was not until Marshall Hall advocated the theory of reflex irritation that any progress was made in the knowledge of the disease. Later on came Hughlings Jackson, with the belief that the convulsive seizures were due to an explosion of nerve force in the higher cortical and sub-cortical brain centres, caused by nutritional disturbances.

Haig, in his recently published researches, demonstrated the close connection of attacks of epilepsy with variations in the excretion of uric acid. "Here and there in literature," says a distinguished writer in the *Alienist and Neurologist* of October, 1898, "opinions have been expressed that the probable cause of many nervous symptoms is to be sought in an intoxication or auto-intoxication of the organism."

Notwithstanding some of the most eminent neuro pathologists have given special study to this disease, we are yet without accurate knowledge of a definite lesion upon which may be based rational treatment. As long as the etiology and pathology are so obscure, treatment must of necessity be more or less experimental.

Van Gieson, chief pathologist at the New York State Pathological Institute, writes in a recently issued number of the *Archives of Neurology and Psychopathology*, that "All the facts which the pathological anatomist and physiological chemist have gained in the study of this dire malady, give no explanation of the *process* that gives rise to the epileptic phenomena."

He deprecates the use of bromides in the treatment of epilepsy, believing that in many cases its administration on this entirely empirical basis, although relieving the symptoms, may damage the nervous system severely.

As to the curability of true epilepsy, I am, you may say, decidedly skeptical. It is practically an incurable disease. I have, of course, seen cases in which the convulsions were stopped for some considerable length of time—as long, in some instances, as two years. But as far as my experience has gone, there was always a return of the fits, sooner or later. There are doubtless some cases, particularly in children, in which by the removal of the reflex cause, if that can be discovered, the disease is arrested or probably cured. While brain surgery has possibly accomplished a few permanent cures, it is a procedure that can be adopted in only a limited number of cases.

Taking all cases—reflex, traumatic and the

so-called idiopathic—probably not more than 2 per cent. are permanently restored, it matters not what line of treatment may be adopted.

During the past ten or twelve years I have tried, in quite a number of cases, about every drug that has been recommended as useful in the treatment of epilepsy, and am still experimenting, but I have little faith in the efficacy of any medicinal remedy in curing this fearful disease.

What effect epilepsy has on the mind is an important question. Certainly it has a marked influence on the mental development of children, frequently leading to idiocy. The frequent violent explosions of nerve force must arrest or retard mental evolution.

There can be no doubt that epilepsy leads, in many instances, to mental and moral degeneracy. Dementia is frequently preceded by epilepsy of long standing.

It is, however, a difficult matter to give with any degree of accuracy the proportion of epileptics that become insane. About 10 per cent. of all insane persons have a history of epilepsy.

Dr. Frederick Patterson believes that less than 10 per cent. of ordinary epileptics become insane. Dr. J. H. McBryde, however, is of opinion "That, with rare exceptions, habitual epileptics suffer sooner or later from some degree of mental impairment."

The journal of the American Medical Association, in concluding an editorial in its issue of December 3, 1898, regarding the difference of opinion of these two equally eminent authorities, says: "It may be said that it requires a rather broader conception of insanity than is commonly admitted to apply it to epileptics generally, or even to all the chronic cases in their later development. They are unfortunates, to some extent mentally impaired in a large proportion of cases, but it is as easy to overestimate the frequency of such defect as to underestimate it."

At any rate, the mental capacity of an epileptic may vary from that of the higher order of genius to that of a complete imbecile. Napoleon, Julius Cæsar, Petrarch, Peter the Great, Handel, Swift, Richelieu, Marlborough, Mahomet and St. Paul, are among the geniuses of the first order who were subjects of convulsive seizures or epilepsy.

That the disease is to a marked degree hereditary, is generally admitted. The offspring of an epileptic may be idiotic, insane, morally deficient, or otherwise degenerate.

In New York and Connecticut the transmission of the disease is considered of serious

enough import to influence the taking of steps towards forbidding the marriage of epileptics.

Now let us study the epileptic as an individual, as an element of the community.

Owing to the distressing nature of his malady, he is almost an outcast from society. On account of it he is debarred from enjoying equal advantages with his more fortunate fellow beings. Deprived of opportunities of acquiring an education or a trade, he grows up in more or less ignorance. Denied social enjoyments, church privileges, &c., he lives in discontent and selfishness. His lot is indeed a hard one. Rich or poor, old or young, his life is beset with trials of a most aggravating nature. No one likes to employ him in his store, office, factory or elsewhere, for fear he may have an epileptic attack while engaged at his work. The fact that he has fits causes him to be shunned and neglected. Can there be anything more mortifying than to be besieged with a fit, and thus made the centre of a group of curious spectators? In a public assemblage, can there be anything more appalling than a person in the convulsive stage of epilepsy? An object of never-ceasing anxiety, an unconcealed skeleton in the household, he is a menace to the happiness and comfort of the family. For obvious reasons, it is impossible to give him proper attention at home. A considerable number of families in which there are epileptics are poor and absorbed in struggles for a livelihood. Consequently, the care and support of a dependent, who contributes almost nothing to his support, become grievous burdens. Indeed, the presence of an epileptic in a family often means the withdrawal from the ranks of wage earners or of productive labor of two persons, one of the epileptic himself, and the other the person who is responsible for the care of his unfortunate charge.

From a medico-legal point of view the epileptic is an uncertain and dangerous element in our midst. Frequently he is temporarily deranged after a seizure, and at such time may commit homicide or other crime. The mental aberration may vary from the slightest deflection to the most profound dementia or furious mania. The epileptic dyscrasia manifests itself in various peculiar ways. No one can tell when or how a sudden impulse may seize the erratic victim of epilepsy. There can be no denial of the fact that owing to the strange protean manifestations of his malady, the epileptic has committed some of the most revolting crimes.

It is clear, therefore, that certain safeguards should be thrown around these poor creatures,

both for their own sakes and in the interest of the public peace and welfare.

Reduced to poverty and want, and having no where else to go, many epileptics, including children, drift into the almshouses, where they are forced in many instances to associate with degraded humanity of every kind. These local institutions are without means for the suitable care, treatment and employment of this class of patients. It is objectionable to many epileptics to be compelled to associate with the average inmate of a poorhouse; and, on the other hand, no other class of people so demoralize the entire administration of the poorhouse as do epileptics, who are, as a general rule, irritable and hard to please.

Long and almost criminal neglect has sent many an epileptic to the hospital for the insane. Frequently they are pronounced insane when they are not, and forced to go to the insane asylum, an unsuitable place for them. Certainly the defective commitment law of Virginia has caused many a sane epileptic to be confined in a jail or a lunatic asylum. To convalescent insane patients particularly is the presence of epileptics harmful, involving a great danger of relapse in their mental condition.

The aspect of a patient in an epileptic paroxysm is shocking to witness, and the sight has been known to induce a similar attack in an onlooker. On the other hand, association with the insane, tends to aggravate the disease of the epileptic and to make him more irritable and unmanageable.

During the past few years, I have endeavored to ascertain as accurately as possible from available data, the number of epileptics in my own State. I do not think it an over estimate to put the number at 3,500, for the usually accepted ratio in this country is 2 per thousand of the general population. In North Carolina, then, there are about 3,000, and in South Carolina, say 2,500 epileptics.

They are to be found scattered throughout our land, in private homes, jails, poorhouses, asylums, etc. But wherever they are they are discontented, unhappy and full of evil forebodings, and their life more or less miserable.

View the matter in any way you will, there can be but one conclusion: The average indigent epileptic is sadly in need of a home, hospital or colony, where he can be cared for in a humane manner, and have his disease studied and treated in accordance with the most scientific methods. But this is not all the epileptic needs: He needs employment both of mind and body. This can be provided no

where as well as at an institution equipped especially for him.

That the public conscience has, to a great extent, been aroused to the needs of epileptics, is evidenced in the number of institutions which have already been opened to them.

Credit for the first effort ever made in the care of epileptics in a special institution is due a Frenchman by the name of Pasteur Bost, who, in 1848, opened a small industrial home in Southern France for a few patients. In 1869, the now celebrated Bielefeld Colony for Epileptics began on a very small scale. To-day this colony, one of the greatest charities in all the world, has nearly 1,500 epileptics comfortably living in homes on 1,400 acres of land, where they work and enjoy the ordinary pleasures and privileges of life like other people, and at the same time are receiving the best possible medical treatment.

But let us review what has been done in our own country along the lines of humane care of epileptics.

It would be too long a story to tell of the persistent efforts on the part of public spirited citizens and philanthropists to induce the Legislatures of various States to recognize the needs of these unfortunates. Nor would it be a short story to tell of the successes attained here and there in the way of small institutions established and maintained by local charity organizations and philanthropic individuals. I propose to give results, and not the laborious efforts by which the results were obtained.

The first private charity institution for epileptics in this country was established at Baldwinsville, Mass., in 1882. It still exists, and is doing a grand work for epileptic children.

The first State institution built exclusively for epileptics was in Ohio. In 1879, the Legislature of that State seriously considered the matter, but not till 1890 was a law enacted providing for the establishment of a hospital for epileptics, sane and insane, to be located at Galopolis. On November 30, 1893, the institution was opened for the reception of patients. It had capacity at that time for only 250 male patients. September 1st, 1894, cottages for 200 females were completed and at once occupied. The buildings now consist of 12 cottages, with from 50 to 75 beds each; one cottage for the insane, with capacity for 200 patients; one large industrial building, equipped for mechanical pursuits of various kinds; one kitchen; two congregate dining-rooms; one bakery; one laundry; one building for cold storage and manufacturing of ice, and such other build-

ings as are necessary at a large establishment of the kind. Other buildings, such as a chapel, an amusement hall, a hospital for the sick, &c., will soon be constructed. Four hundred and fifty-five thousand dollars have already been expended in construction. The farm attached to this institution consists of several hundred acres of land. At this time, there are nearly nine hundred patients being treated there. On a visit to this institution in the spring of 1897, I was deeply impressed with the humane and scientific work that was being done there. Nearly all the labor about the cottages, laundry, kitchen, &c., was done by the patients. Many of them were engaged in grading, excavating, quarrying, building, planting trees and flowers, attending to stock, gardening and farming. Others were making brooms, baskets, mattresses, repairing shoes, etc. In short, there was a systematic effort to provide some healthy occupation for all who were able to work. A school for the children was flourishing. Already proof had been given of its usefulness as a means of improving the physical, intellectual and moral condition of the little patients. Outdoor sports, in-door games and amusements, religious services, Sunday-school, etc., add to the comfort and welfare of the inmates. A spirit of contentment and good feeling seemed to pervade the hospital. The patients seemed to appreciate the beneficent results of the humane and, in a measure, curative treatments they were receiving for their hitherto irremediable malady. I was told by Dr. H. C. Rutter, the able superintendent, that marked improvement in the physical and mental condition of the patients had been noticeable with each recurring year. Under the skillful treatment patients were receiving there, the number of epileptic seizures had decreased more than 300 per cent., and had become of a very much milder character. About 6 per cent. of those treated have been discharged recovered. No case is pronounced cured unless two years have elapsed since occurrence of last paroxysm.

New York was the second State to recognize in a substantial way the requirements of epileptics. After years of patient and persistent efforts on the part of the advocates of State care of dependent epileptics, the Craig Colony, for *sane* epileptics, modeled, in great measure, after the noted Bielefeld Colony, was a reality.

In 1894, by legislative enactment, \$140,000 was appropriated to purchase property and provide accommodations necessary to begin the colony. An estate comprising nearly 2,000 acres of land, in Livingston county, was selected. Located in the great Genesee Valley,

the farm is fertile and well watered; contains 700 acres of original growth walnut, maple, hickory, oak, pine and other hard woods useful for manufacturing purposes. Having on it a number of old buildings formerly used by the Shakers (for they were the owners who sold the property to the State), it was not a difficult matter to repair and remodel enough of them to provide for a goodly number of patients. In February, 1896, the colony was formally opened, and soon 200 epileptics were comfortably domiciled there in home-like cottages, with beautiful gardens and grounds attached, given suitable employment, and placed under humane and scientific medical treatment. The Legislature, seeing what a humane act it had been to establish the colony, appropriated in 1896 \$75,000 more for the construction of new buildings, including a hospital for acute medical and surgical cases, etc., etc. In 1897, an additional appropriation of \$126,000 was secured for the purpose of constructing administration buildings, dormitories for patients, houses for employees, a granary, a henry, a piggery, a slaughter-house, and in enlarging the facilities for carrying on the various industries which have been established there for the benefit of the patients. These additions have now been completed.

From a recent article written by Dr. W. P. Spratling, the energetic superintendent of the colony, I glean some facts which are interesting, and show that the colony is rapidly developing into an ideal institution for the treatment of epilepsy and the care of epileptics. During May, of last year, there were 270 patients—148 men and 122 women—distributed in a number of houses dotted here and there over the beautiful grounds, which had been carefully laid out in accordance with a general scheme of development for landscape gardening, etc. At the end of last fiscal year there were 322 patients in the colony.

The last legislature appropriated a considerable sum to be used in constructing additional buildings, including cottages for patients. Each cottage will be a home in itself for 12 to 24 patients, and one or two servants, and will have its own kitchen, dining room, etc. Separate buildings for children will be constructed, each containing a school room, a kindergarten, a sitting-room, a play-room, and a work-room. These buildings will be ready for occupancy by July of this year. It is proposed to construct this year an infirmary for the crippled and helpless.

One visiting this great institution, which it was my pleasure to do in 1897, is at once forcibly

impressed that it is the purpose of those in authority there to make it not equal but superior to the German colony. One sees all around him evidences of its industrial and educational features. Forty or more men are employed daily in the industrial buildings, consisting of carpenter, blacksmith, upholstery and general repair shops, a printing office, etc. The farm and garden, cultivated almost exclusively by the patients, are sources of considerable revenue, besides being of marked benefit to the patients employed thereon. It is the purpose of the managers to produce, chiefly through the labor of the epileptics, everything that is consumed at the colony. For instance, all the beer, beef, mutton, cereals, chickens, eggs, milk, and other foodstuffs are products of the farm, etc. The ratio of earnings of the patients to the cost of their maintenance is already over 50 per cent. During April, 1898, 75 per cent. of all male patients and 81 per cent. of all female patients were employed at some useful labor, at the rate of 6 to 8 hours a day regularly. The men were employed in the various out-door occupations, in the shops, etc., and the women at the laundry, sewing rooms, in the kitchen, as waitresses, assistant nurses, etc.

Dr. Spratling says: "It has become to be a well recognized principle in the treatment of epilepsy that systematic employment possesses genuine and distinctive merit, and the necessity for making ample provision for the employment of all patients at the colony was early recognized, and as far as possible carried into effect."

At both the Ohio Hospital and the New York Colony the aim is to treat the individual; therefore, his medical, dietetic and moral treatment is each given special attention. Investigations into various methods of treatment are being constantly made, and the use of any remedies that hold out the least promise of benefit are given patient trial and results noted.

The recovery rate at the Craig Colony seems to be about what it is at the Ohio Hospital—viz.: 6 per cent. of all treated.

A training school for nurses specially for epileptics has been started at the Craig Colony, which will prove a valuable adjunct to the medical department. The nurses are taught cooking in all its branches, for among the means of treating epilepsy, a proper dietary is one of the most important.

Lectures on the science and art of house-keeping are included in the curriculum.

The Ohio institution has its pathological laboratory, in which original research in epilepsy is prosecuted under direction of a skilled

and scientific expert in that line. At the Craig Colony a laboratory is in course of construction, which, when completed, will be a model in every respect.

Doubtless valuable information regarding the pathology and etiology of epilepsy will emanate from these great centers.

In 1895, the Legislature of Massachusetts passed an act providing for the establishment of a State Hospital for Epileptics, on the site of the old State Primary School, at Morrison. The Hospital was opened some months ago, and is authorized to receive: (1), epileptics from the Insane Hospital; (2), those who may be legally committed; (3), voluntary sane epileptics, who may be detained for a limited period, but only adults who are not criminals, idiots, inebriates or violently insane can be received.

The California Legislature, during its session of 1897, authorized the establishment of an epileptic colony for the accommodation of about 500 patients, to be transferred from the various asylums of the State. Already over 500 epileptic children are being cared for at the Hospital at Eldridge.

Michigan has a public institution for epileptics, conducted on the industrial plan.

The generosity of liberal individuals, notably Henry C. Lea, of Philadelphia, together with the aid of the State, made the Oakbourne Colony for Epileptics in Pennsylvania a possibility. It is the purpose of the managers of this institution to colonize on a large scale as many epileptics as the State can support. "It is," says the *Medical News*, "an undertaking which, from its humane basis and its eminently practical results, must meet with the sympathy of every one interested in the welfare of this unfortunate class in the community, and that such results outweigh the cost of the monetary outlay is conceded by all students of sociology."

The advocates of the care of epileptics in special institutions, in the State of New Jersey, being of the ever active, progressive kind, did not let a failure three years ago (when the Legislature passed an act providing for the establishment of a colony, which, for economic reasons, was vetoed by the Governor) discourage them in making another attempt. A few weeks ago, the Legislature of that State passed a bill, which was approved by the Governor, having in view the establishment of an "epileptic village." Fifteen thousand dollars was appropriated for the purpose. Already a farm, not far from Trenton, consisting of 200 acres of land, with several buildings thereon, has been purchased. The institution will be opened

within a few months for the reception of patients.

In Virginia the question of establishing a colony has been agitated, off and on, during the past few years. Public sentiment favorable to such an institution is undoubtedly growing. The public conscience is gradually awakening to a sense of duty to these poor unfortunates, and I hope to see proper provision made for them in a few years.

In 1895, the State Medical Society, in a set of resolutions, urged upon the Legislature the importance of this humane project. During the session of the General Assembly of 1895-96 a Commission* was appointed to look into the matter of State care of epileptics, etc. The Commission set about its task with enthusiastic interest, and after making a thorough investigation into all phases of the subject, submitted its report, the conclusion of which I make the conclusion of this paper.

1. That every principle of justice and humanity is in opposition to the indiscriminate commingling of epileptics, lunatics and paupers of every class in the same institution. That neither the lunatic asylum nor the poorhouse is a suitable place for an epileptic.

2. That as a rule, epileptics in private families are necessarily deprived of the ordinary advantages of making a support for themselves, of acquiring an education, or of entering into any of the privileges or pleasures of life; but on the contrary, they are a heavy tax upon others.

3. That it would ultimately be in the interest of public economy if the State would assume charge of all indigent epileptics and provide for them suitable means and ways by which at least many of them would contribute to their own support.

We would recommend:

First. That one of the State hospitals be utilized in part for the care of all the insane white epileptics of the State, thus leaving the two other hospitals for the accommodation of all white insane persons who are not epileptic. At the hospital thus selected, suitable buildings should be set apart exclusively for this class of patients, so that their diet, employment, medical treatment, etc., could be regulated in the proper manner—things that are impossible to do when they are commingled, as at present, with other patients. This policy has already been adopted at the Central State Hospital at

* The members of the Commission are Dr. George W. LeCato, of Accomack county; Hon. William P. McRae, of Petersburg; Captain Charles E. Vawter, of Albemarle county, and William F. Drewry, of Petersburg, Va.

Petersburg, where all the female colored epileptics occupy a separate building. The result of this regulation has proven to be a benefit to both the epileptics and the non epileptic insane of that institution.

Second. That a colony, modeled in a great measure after the Craig Colony in New York, be established in this State for *sane* epileptic. There should be procured, either by purchase or by long time lease, a tract of fertile, productive land, say of 1,000 acres, in a healthful region, with an abundant supply of pure water, good natural drainage, and means of the ready disposal of sewage. The location should be near some large town, and easy of access from all sections of the State. Having selected such a site, the colony should begin on a small scale and be gradually developed in a way that would seem best adapted to the needs and requirements of the class of patients for whose benefit it is established, etc.

In the beginning, there should be only a few plain, inexpensive cottages for the accommodation of, say, one hundred epileptics and the required officers and employees, and necessary outbuildings. Workshops and other buildings for various trades and industries, hospital for the sick and infirm, hall for recreation, a chapel, schoolhouse, etc., should be built later on as the colony develops. Farming, gardening, stock raising, fruit culture, etc., should be prominent features in the beginning. Mechanics among the patients would aid materially in developing the institution on the industrial line.

Incalculable benefit would be derived from the school for educating the children, as other children and young people, and from the shops in teaching many of the beneficiaries trades and industrial occupations. Indeed, many would be enabled, under proper supervision, to support themselves entirely while under treatment in such a colony. The labor the patients would do, such as working on the farm, in the shops, stock raising, etc., would eventually make the colony self-sustaining, to a great extent.

Third. That the collection of a large number of epileptics in such an institution, under the treatment of a well-equipped and organized hospital corps, together with a pathologist, would afford opportunities for a scientific study of this widely prevalent and almost irremediable disease, which would eventually lead to a greater knowledge of its nature and cause; hence, more satisfactory results from treatment. Under skilled medical and surgical treatment, combined with suitable dietetic,

labor and hygienic management, a goodly number would be restored, or at least improved sufficiently to go out into the world and earn a living for themselves.

Fourth. That the colony be managed by a Board of Directors, composed of not more than five members, to be appointed by the Governor, by and with the advice and consent of the Senate. The term of office for each member should be five years.

The Board should appoint as superintendent a skilled physician, whose term of office should not be less than six years. They should also appoint the necessary assistant officers, fix their term of office, salaries, etc.

The expense of establishing and equipping the colony should be borne exclusively by the State, but its maintenance should be paid for in part by the various counties and cities sending patients there, say \$40 per annum for each indigent patient.

Pay patients should be admitted on terms to be regulated by the Board of Directors.

The commitment of pay patients should be voluntary on their part. Indigent patients should be admitted by county or city authorities upon certificate of a reputable physician. The number of patients receiving benefit from the colony should be proportioned among the several cities and counties. At first, as many as practicable should be taken from the poor-houses, hospitals for the insane, etc.

From a list sent by the local authorities, the Board of Directors and Superintendent should select such cases as, in their judgment, would be most suitable for residence in the colony. The object of this would be to prevent the crowding in at first of helpless patients, who could be of no service in developing the colony.

The Directors should be permitted by law to receive any gift or bequest of money, or any donation to be applied, principal or interest, to the erection of buildings, to the support or education of the patients, or to the general use of the colony.

While we believe there is urgent necessity for such an institution as we have outlined, we think it would be the part of wisdom, in establishing a radically new charity, to carefully consider every step; therefore, we would recommend that the General Assembly appoint, or authorize the Governor to appoint, commissioners, whose duty it shall be to pursue this investigation further, and to get options on various sites, submit plans, estimates of cost, and such other information as may be desirable or necessary to give the Governor and the Legislature full information preparatory to the

establishment of an epileptic colony for the curative, scientific, and economical treatment and care of epileptics in Virginia.

The report was adopted by the Legislature in 1897-98.

PHYSICAL EXAMINATION OF VOLUNTEERS U. S. ARMY.*

BY PRESLEY C. HUNT, M. D., Washington, D. C.

The late war with Spain furnished me the opportunity to examine 1,798 men; 964 at the time of recruiting or mustering in, and 834 belonging to regiment which had seen service in Cuba and Porto Rico previous to its being mustered out.

The notes I kept during the examinations were necessarily brief, and I have therefore been forced to treat this subject more as a matter of general conclusions than as one of details.

The following is a summary of the standard laid down by the Surgeon-General's office for examination of recruits for infantry regiments:

Age, 18 to 45; *minimum height*, 5 feet 4 inches; *weight*, 120 to 190 pounds; *chest expansion*, at least 2 inches at nipple for those below 5 feet 6 inches, 2½ inches for those up to 6 feet, and 3 inches for those 6 feet or over.

Minors were required to obtain their parents' consent. At first, this law was not enforced, but the very large number of applications for discharge received at the War Department from parents requesting the discharge of their sons, on the ground that they were minors, interfered so greatly with the discipline of the regiments that an order requiring written consent was imperative before enlistment. I was forced to reject three for this reason alone.

The mustering in officer had the authority to waive the lack of a fraction of an inch in height or a few pounds in weight. In one case, 1½ inch was waived. The Surgeon-General, in several instances, accepted men whose vision was ⅓.

The general appearance of a man enters quite largely into his examination, and in two instances, when I was about to reject on general grounds, the captains of companies urged me to pass the men. One of these was afterwards discharged, not having the physical stamina for camp life.

The percentage of men passed was 54 per cent. The percentage would have been much smaller had I had a larger number to examine.

The percentage of men passed in the regular army during the past year was 22 per cent.

The reasons for this marked difference between the regular and volunteer service were as follows:

1st. Men would enter the volunteers who, in time of peace, would never think of entering the regular service.

2nd. The regular service required a man to be under thirty years of age, and able to read and write the English language. No such provision was required of the volunteer.

3rd. The examiner would not waive causes which would not reject for enlistment in the volunteer service.

The causes of rejection of the 414 out of 964 were as follows:

Below minimum in height.....	16
Under weight.....	31
Over age.....	1
Minors without consent.....	3
Mitral regurgitation.....	24
Bicycle heart.....	6
Other cardiac lesions.....	3
Consolidated lungs.....	5
Chronic bronchitis.....	27
Chronic pharyngitis.....	3
Defective teeth.....	4
D defective speech.....	3
Defective hearing.....	5
Suppurative otitis media.....	3
Myopia.....	26
Cataract.....	3
External strabismus.....	2
Obesity.....	3
Deformities.....	11
Eczema.....	5
Syphilis.....	7
Gonorrhœa.....	27
Flat chest.....	37
Deficient chest expansion.....	26
Varicose vein.....	18
Hemorrhoids.....	14
Varicocele.....	23
Orchitis.....	3
Hernia.....	7
Flat foot.....	21
General causes.....	47

In the examination of 362 colored men, I rejected one for cataract of the left eye; one for external strabismus; all others passed eye-tests.

Another noticeable feature was that there were no rejections for varicose veins of the extremities.

While I rejected thirteen for varicocele, I

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, January 5, 1899.

found one out of every five of the recruits affected with varicocele, but being guided by an article of Nicholas Senn on this subject, I rejected only marked cases. I now believe this to have been a mistake, and much care should be taken in accepting a man with a moderate varicocele. I found, in the muster-out examination, sixteen cases out of sixty-one aggravated by military service.

The conclusions I draw from my muster-in examinations are—

1st. We should have a larger standing army. The expense of the volunteer service up to the present (November 15th, 1898,) would be sufficient to keep a standing army of 50,000 for twenty years. We would then have had a better equipped medical, quartermaster, and subsistence departments, and consequently a smaller pension list as a result of the late war had the standing army been 100,000.

2nd. In time of war, when large bodies of men are hurriedly raised, the volunteers should be examined by the captains, and any physical defects or inaptitude for hard service should be a cause for rejection until 150 have been enrolled. The surgeon should then be called on, who will reject about 40 per cent., leaving 90 men, from whom the mustering officer may select the number required for the company.

3rd. Special care should be given to the heart and inguinal canals, as cardiac troubles and hernia are frequent results of military service.

The examination previous to muster out of 834 men of a regiment who had seen service in Cuba and Porto Rico, and had passed a severe physical examination previous to enlistment by Col. Wm. A. Forwood, Deputy Surgeon-General U. S. Army, was performed in the shortest time on record.

While the records at the War Department prove it to be by far the quickest muster out known yet, owing to the executive ability and tireless energy of Captain G. K. McGunnegle, chief mustering officer, and his assistants, Lieutenants McNeil and Applewhite, U. S. Army, they not only saved thousands of dollars to the Government, but the records, papers, etc., were in such perfect condition as to receive encomiums at the Department.

The paper I was called upon to fill out for each man, required—

1st. The soldier's present health?

2d. Whether, if disability was present, it was caused by military service?

3d. If the condition would prove permanent?

4th. If it would affect him in the performance of manual labor?

I found a marked difference between the condition of the officers and men—90 per cent. of the former and 30 per cent. of the latter—able to perform immediate military service (Nov. 20, 1898). Thirty-nine out of 866 were confined to their beds and were not examined.

I found, with the exception of three or four, every man who had gone to Cuba had suffered from "the fever." I found that no matter for how short a time they suffered, the fever was apt to return.

I remember one day, that out of eighty men, I sent three to the hospital, who had reported for examination, and four others were suffering from marked fever (102° – $103\frac{1}{2}^{\circ}$) at the time of examination.

Of the men who had seen service in Cuba, 1 per cent. were improved by military service, 5 per cent. were in as good physical condition as at the time of enlistment, 24 per cent. were but slightly affected, and as a rule, the troubles were not traceable to military service.

The general condition of the remainder of the men—70 per cent., 528—were as follows:

Irritable heart, due to fever.....	365
Mitral regurgitation.....	4
Chronic bronchitis.....	214
Acute bronchitis.....	47
Phthisis.....	3

In a great majority of cases, pulmonary affections were traced to Camp Wickoff, L. I. This is explained by the sudden change affecting weak and debilitated men from the tropical climate of Cuba to the cold, bleak, foggy climate of Long Island.

Gastritis, in some form.....	158
Enlarged or congested liver.....	116
Enlarged spleen.....	316
Inflammatory conditions of intestines.....	53
Irritability of bladder and incontinence of urine.....	76
Nephritis.....	5
Hemorrhoids.....	11
Varicocele.....	61
Inguinal hernia.....	3
Rheumatism.....	26
Myopia.....	19
Atrophy of optics due to rupture of blood vessels following typhoid fever.....	1
Slight eye strains.....	29
Slight deafness due to quinine.....	17
Chronic nasal catarrh.....	9
Sprain of back.....	3
Old dislocation right shoulder.....	1
Gunshot wounds left forearm, one producing slight deformity.....	2

Badly set Colle's fracture)	1
Secondary syphilis.	2
Suffering from pains in the muscles, especially the calves of the legs and lumbar region, loss of weight from ten to thirty pounds, accompanied by more or less debility	471
Relapses of fever continuing to recur up to present time (January 4, 1899).....	87

In marked contrast with the above, was a company of this regiment who had gone to Porto-Rico. Only 10 per cent. were in any way affected, and these so slightly that it was possible for the entire company to perform military duty.

In closing, I would state that all the men I have spoken to—about fifty—would again offer their services if required, but, without exception, would only enter the regular service.

The conclusions I desire to draw from the muster out are:

1. The necessity of requiring a careful physical examination as a requisite to entering the National Guard.

2. A law should be enacted compelling regiments to enter the volunteers as an entirety, thus producing the best volunteer force possible, and not as was most common in the late war, the ranks had to be recruited from those who knew nothing about the duties of a soldier, through lack of volunteers from the National Guard.

3. The absolute necessity of having our National Guard officers qualified in the care of their men.

The volunteer officer may have the best interests of his men at heart, and his strongest efforts may be given for their care; but it is only by years of training that they may hope to gain that experience in the care of men that marks the regular army officer.

825 Fourteenth St., N. W.

DISCUSSION.

[Reported by Dr. Eliot.]

Dr. (Major) Borden said that he had been in the military service for fifteen years, and that he therefore looked at the matter from a military as well as a medical standpoint. He had made no physical examination of volunteers, but had seen many returning volunteers at Montauk and New York city, and from what he had seen and heard, the volunteers as a class were distinctly inferior to the regulars in physique. This was due to the necessity of obtaining quickly a sufficient number of men. Such necessities should not arise. Nations might be compared to organisms. In the lower

organisms, the cells were less specialized, so in the beginning of nations the individuals were less specialized; a man could be at once a citizen and soldier. But in our higher civilizations, as in the higher organisms, individual work was extremely specialized, and individuals trained to certain work could best do that work. In nations, as in organisms, change was slow.

The military experience of the United States had firmly implanted the idea that the volunteer was an efficient fighting man, but when investigated this could be seen to be extremely erroneous.

The volunteers of the Revolution fought against a half-hearted foe, badly officered.

In the War of 1812 the circumstances were similar.

The Mexican War was fought against a distinctly inferior foe. The Civil War was won by preponderance of force, the volunteers really being trained soldiers before its close.

In the Spanish-American War the volunteers had been little more than a costly experiment.

This analysis shows that we cannot take a man untrained for military service and get the same service from him as from a regular.

It had been argued that the National Guard would be effective, but many of the men had never undergone a physical examination; and when it was attempted to muster this organization into the United States service, so many men were thrown out as to practically destroy the organization. Their military training was also most superficial.

In our highly specialized civilization, no man can or should be expected to be both a civilian and a soldier. The majority of the great nations have accepted this fact, and we should also.

Dr. Kober wished to call attention to the fact that where a company returns in good condition, it showed that they either enjoyed better climatic conditions, or else their officers knew how to handle and care for the men better than all the other company officers. He agrees with Dr. Borden that the physical examinations of recruits is of vast importance to the government, and this should be taught in the medical colleges. This teaching would be useful in the examination of applicants for life insurance.

Dr. L. Eliot told of the examination through which he went in September of 1861, when he enlisted in the hospital corps.

Dr. Hunt, in closing, said the majority of people thought the war of 1861 was fought by volunteers. While there were volunteers at the beginning of the war, they, by reason of long experience, had become as fine a body of regulars as were ever gathered together.

THE DIAGNOSIS AND TREATMENT OF TUBERCULAR PERITONITIS.*

By WM. L. ROBINSON, M. D., Danville, Va.

Ex-President Medical Society of Virginia, &c.

The subject of tubercular peritonitis is one full of interest both to the general practitioner and surgeon. The disease for years was regarded as incurable, till surgery opened up a field promising much, which has been realized in certain forms. More recently, while no special curative agencies in the therapeutical line offer anything of significance, statistics show from fifteen to thirty per cent. of spontaneous cures, especially in the young. Reymond and Hughes Bennett state that from examination of cadavers, from one-third to one-half of all individuals who die after the age of forty have had spontaneous arrest of tubercle in some stage.

While all forms of tubercular peritonitis are full of interest, I desire more especially to allude to some points pertaining to the more acute form.

Whatever divisions be made, whether of fibrous, ascetic, sero-membranous, purulent or ulcerative, there are two leading features in tubercular peritonitis—one is plastic exudate; the other, effusion. The first, is always present; the latter, absent in many cases.

The varied symptomatology of invasion and progress forces diagnosis by careful exclusion.

1st. In one, you will find it marked by insidious, slow and even advance, without or with only occasional pyrexia, and with ascites as an early and leading trait.

2d. Again, we have a series of attacks, with intervening lulls, until the entire peritoneal cavity has been attacked, without effusion, but retraction of the abdomen.

3d. Again, chills, with fever, or seemingly invasion of typhoid fever, marks its progress.

4th. The sudden invasion after miscarriage.

5th. Gradual increase of swelling, resulting in enlarged abdomen, with more or less pain (abdominal), and pain in urinating.

6th. Again, effusion may begin without abdominal tenderness, without a febrile condition, and with nutrition unaffected. Such a condition, unexplained in some other way, should arouse suspicion of tuberculosis.

When you can trace the invasion from the pelvis above, with floating masses in the abdo-

men, and deep intestinal percussion sound, the diagnosis is usually clear.

I have noticed, in manipulating the abdomen with hand extended, that under the finger bulbs, on deep pressure, a crepitant feel, like the sensation of air or water infiltration in cellular tissue. Again, I have observed under such pressure the gurgling of displaced gas, as you find in adhesive appendicitis.

The history of the case, with the impression the individual case makes on you (like deciding when to operate for appendicitis), enables you to sum up a diagnosis; yet you cannot formulate in words or rules the guide thereto.

I can add something, possibly, to these diagnostic hints, by briefly reviewing the history of several cases. First, I would report three cases of young children.

One was rosy and stout, of tubercular ancestry; the other two were of average robustness, who came under my care in the last twelve months.

CASE I.—Mr. D.'s child, aged six years, had several chills, followed by fever, and then a regular evening rise of temperature to 103° for ten days, and then an intermission of a week, with fever recurring thereafter irregular in its history; then exacerbations, often the highest in the morning, but abating several times in twenty-four hours; constipation persisted spite of several mercurial purgatives. There were abdominal pains, with irritable bladder; the appetite was a marked feature, never failing under fever or quinine, the latter faithfully tested for the first ten days, sponging, hot douches over abdomen, painting with iodine and collodion over bowels, sun-baths, massage, etc. Stay of two months in the country gradually dissipated the symptoms, and now six months elapsed and health perfect.

CASE II.—Miss M., aged 9 years, tubercular ancestry, commencing indigestion pains in abdomen, constipation, slight fever, increasing in evening, becoming irregular, crepitant feel and gurgling of gas under pressure, pulse rapid, hectic flush occurring several times daily on first one cheek and then on other, later complicated with pleuritis. Treatment: Saline irrigation, iodine over abdomen, and massage, fresh air, and special care of digestion and building up, with apparent restoration of health. There was fluid felt in flanks when examined with attention to position; sick two and one-half months; recovery.

CASE III.—Mr. W. W.'s child, aged six years, rosy and active; invasion gradual, pain in bowels a few days, slight fever, malaise, but

*Read before the Tri-State Medical Association of Virginia and the Carolinas, in session at Charlotte, N. C., January 11-13, 1899.

appetite good for three months. This condition of slight attack and lull alternated, till recently an invasion simulating typhoid fever came on, with tenderness persistent over abdomen; temperature normal in the morning, and 101 or 102° F. in the evening. Mercurial purgatives and quinine availed nothing, and promptly discontinued; later the abdominal tenderness became localized in small areas. The crepitant sensation was marked in this case; later the tenderness disappeared, but promptly recurred on walking around; the appetite was excellent and urgent all the while. She is still under observation. Some light will be thrown on this case by this history of the next one, who was her sister.

CASE IV.—Miss M. W., aged seventeen years, tuberculous history; pelvic tenderness for three years, frequently suffering violently, especially at menstrual period; she was always excessive in flow, and too frequent. Out door exercise, and even the bicycle, seemed to improve her every symptom and general health. I advised operation two years ago, recognizing the tubercular involvement of the appendages. The last attack simulated typhoid fever, ran a history of great violence, nausea, abdominal tenderness, prostration, insomnia, irregular fever, from subnormal to 106°. I tided her over the first two weeks, and she was on her feet, with fine appetite. The recurrence was attended with constant fever of 104 to 106, and after five days of inability to nourish, and fluid forming, I did a laparotomy; temperature subsided promptly, but died from exhaustion; the appendages, pelvic and surrounding tissues were studded with tubercles.

I omitted to state that the six-year old sister menstruated two months before last attack.

CASE V.—Dr. Spencer's case: Young lady, fifteen years of age, had been suffering with general tenderness and apparent appendicitis, with pain and fever, for months. Operation for appendicitis. The whole of the peritoneum and intestines were matted together, modulated and studded with tubercles as thick as possible. The whole intestines were agglutinated in one mass, and scarlet red. The adhesions were liberally broken up, appendix removed, flushed and wiped dry, dusted with iodoform, and walled off with gauze. Recovery rapid.

CASE VI.—Mrs. Hindly, aged 32. Referred to me by Dr. Smith, of Henry. Temperature for eight weeks had ranged from 97 in the morning to 104½ in evening. Abdomen distended, and ascitic; diagnosis easy; operation revealed floating gelatinous masses filling the abdomen and peritoneum, and all inner sur-

faces studded with tubercles. Irrigated, dried with gauze, dusted freely with iodoform, and walled extensively with gauze; temperature did not reach 100 after operation, and gained twenty pounds in five weeks; lived six years, bore a healthy child and died of pneumonia.

CASE VII.—Miss S. T., aged eighteen; always regarded as a healthy girl; had been treated for typhoid fever for seven weeks; morning temperature subnormal, afternoon 103½ or more; fine appetite; going around. The above was the history when called in. She was a niece of the last-named lady, and I diagnosed tubercular peritonitis; operated and found adhesions too strong to be broken up. Liberated as far as practicable. Temperature remained normal for seven days, and apparent improvement, then recurrence of trouble, ending fatally in eight weeks. She was a mere skeleton when I saw her. I am inclined to think had operation been performed when adhesions were slight a different result might have been attained.

TREATEENT.

It is stated that from fifteen to thirty per cent. of acute cases spontaneously recover. It is significant that the tendency of the disease to self-limitation is sufficiently marked to cause so careful an observer as Kaulich to define it by a separate group in his classification of the different forms. This tendency is not confined to tuberculosis of the peritoneum, but here, rather than elsewhere, the result is more possible of attainment.

The lungs appear to be the region in which the life history of the bacillus attains its perfect fulfillment; here it multiplies with greatest activity, and as a result produces the most disastrous effects upon life and tissue. In the lungs the normal environment favors rather than retards the extension of the invasion. Yet, in a paper based upon the result of 1146 post mortems at Bellevue Hospital, Henry P. Loomis gives a very large percentage of observations, showing spontaneous cicatrization of lung lesions after tuberculosis. In the researches of Loomis, we have the logical influence before us that the ratio he observed of spontaneous cicatrization in the lungs may be assumed to be true of the peritoneum, plus the enhanced tendency of the latter part to limit the extension of disease; but to accomplish this, either in the lungs or peritoneum, we must have unimpaired a certain vital antagonism to the disease. Osler says: "There is no inherent improbability why tuberculosis of the peritoneum should not undergo involution

as they do elsewhere. Anatomically, the peritoneal growth bears in its evolution a close analogy to the pulmonary; and this is further borne out by the retrograde changes through which it passes, just as the aggregations of miliary nodules on the lungs may undergo the changes, we speak of as healing, becoming hard and fibroid, so in the peritoneum, the tubercle tends in many cases to become sclerotic, and passes into a condition in which it is practically harmless."

Tuberculosis being a disease of exhaustion by pyrexia, spontaneous cure must largely depend on extent of invasion, then the question resolves itself as to how we can sustain the vital forces as the resistant agent by keeping intact the assimilating powers.

There we see the largest percentage of recurrences in the young when the nutritive forces are at the summit of activity. Our efforts should be devoted to the improvement of the general health by proper attention to the digestive organs, the regulation of the bowels, and proper dietary, avoiding fermentation producers, using irrigation of colon, with saline washes, sponge baths, massage, pouring hot water over abdomen, painting abdomen with iodine. Bedford alum water or mass, on account of the iodine and iron it contains, is indicated. Correction of constipation, sunlight and fresh air is of paramount importance.

The operative side is attractive, because we often get prompt and striking results. Not only in the ascitic form, but in the class of cases with retracted abdomen, when exudative adhesions are not too strong, I see no reason for non-interference, careful severing of adhesions, wiping out with dry gauze, free dusting with iodoform, and extensive walling off with iodoform gauze is indicated. The effect of iodoform in tubercular joints is certainly suggestive of its possible good influence in a tuberculosis of the peritoneum.

While we recognize that the results of laparotomy are strongly encouraging, yet the explanation of how it cures is still unsatisfactory, so we go on empirically. Nevertheless, I will impose on your time by reading an article by Hildebrandt on the causes of the healing influence of laparotomy in tubercular peritonitis. It is at least interesting and ingenious. He says tubercular peritonitis is undoubtedly cured by laparotomy, but satisfactory explanation is lacking, and the various theories of this puzzling fact call for serious reflection.

The writer first speaks of the appearance resulting from abdominal incision of the unchanged (healthy) peritoneum. He experi-

mented upon dogs and cats by dividing the various layers of the abdominal walls, closing the same. After some time he reopens, and finds as a result of the laparotomy, besides the paralysis of the intestines, which is observed after every operation upon the abdomen, and which leads to meteorism and constipation, a distinct hyperæmia, which may continue for a week after the operation, which he looks upon as venous from its appearance. This hyperæmia is in part due to the faulty contraction of the bowel. The constant peristalsis is a powerful means of ridding the intestines of venous blood, and when this is absent there results a congestive hyperemia just as in paralyzed parts in other portions of the system. The hyperæmia is also due to inflammation, which, the writer holds, occur in every aseptic laparotomy.

As the nature of the inflammation is not definitely established, the physician clings to the cardinal symptoms, and diagnosticates (inflammation). The tumor, visible at the external portions of the body, corresponds to increased exudation in the peritoneal cavity, which is found after every laparotomy upon re-opening the abdomen. A few days after the operation, there is seen in the free peritoneal cavity a slight quantity of a reddish fluid, consisting of cast-off epithelium and a few pus cells. These would be present in greater amount were it not for the enormous absorptive properties of the peritoneum. The local production of warmth and sensitiveness is the result of increased blood supply.

In tubercular peritonitis, there is likewise an active hyperemia set up in consequence of the reaction upon the peritoneum, following opening of the abdomen, and seems to be even more intense than that produced upon the normal unaltered peritoneum. This is probably due to the circumstance that the inflamed tissues hold the blood more firmly in the dilated vessels.

The writer noticed that when laparotomy was done in the early stages of the disease, where no retrogressive changes have yet taken place, no effect upon the condition occurred. This fact is of importance in the explanation in the curative effect of operation. Tubercular peritonitis frequently tends to spontaneous cure, especially in childhood, and laparotomy may assist the natural means which the body possesses to battle against the disease. The failure of a cure in early laparotomy is due to the fact that the operation was undertaken at a stage when the bacilli have not yet reached their complete virulence operation; done at a

later stage when retrogressive changes have taken place in the life of the germs, causing the disease is followed by cure.

How is it to be explained? We know that the congestive hyperæmia in the lungs due to severe cardiac disease hinders the development of tuberculosis, causing retrogression of diseased foci when present, or even complete cure.

Bien induced congestive hyperæmia as a treatment in suitable cases of tubercular conditions of the joints and tendons, with favorable results. From this analogy, the author believes that the venous hyperæmia, which is present for some days after the operation, play an important rôle in the cure of the disease.

John Duncan, of Edinburg, says: "I don't see how we can escape the conclusion, that more than one cause is required to account for the advantage of laparotomy, and that the most important are probably the relief of tension, the removal of inflating fluid, introduction of air, and the mechanical interference."

In summing up the treatment, I would be inclined in most cases in the early stages to try the medical and hygienic measures, especially if the symptoms were not urgent, as in Case 4. But I feel that in the ascitic sero-membranous, the fibrous (in the early stages) and in those cases caused by extension from the pelvis, surgery is the remedy involving little risk, and giving the strongest hope of cure. Even in the flat abdomen (retracted form), where the matting of intestines and extensive adhesives interfere with the circulation and nutrition of the parts, I think surgical intervention is justifiable.

TYPHOID FEVER—DIAGNOSIS AND TREATMENT.*

By ROLFE E. HUGHES, M. D., Laurens, S. C.

If I could consistently think that your patience in listening to me would be rewarded by impressing you with any new, valuable or radical suggestions, then indeed with great calmness, I would treat at length the subject I have before me: that of typhoid fever, it's diagnosis and treatment. But I realize, being upon a well-beaten path, one that has been ably travelled by many eminent diagnosticians before, I would shrink from even treading cautiously upon a path so hard worn, but for my enthusiasm inspired by the organization of this

society. Most of the Virginia gentlemen present are personal friends; North Carolina's sons are our entertainers, and the Palmetto State, my adopted home, is well represented; so I at least will expect leniency of criticism.

Man is heir to many troubles; our life work is the study of these. It is a serious responsibility and oft-times a gloomy undertaking. Our life is spent on the darker side of human existence and misery, in the deepening shadows of which, as some writer has aptly said, "The God-like creations of the poet seem hideous masks." Still our duty is always the same, studying nature, vigilantly watching, cheerfully aiding. All through our professional lives, stern realities daily dawn upon us; much of the sentiment, romance and tenderness of our real selves has been sacrificed in our search for truth.

Each day tells us more, the strides are rapid, newer fields are opened up, and now we are told of myriads of bacteria swarming in air apparently the purest and lurking at so many places we least expect; that our cool, clear mountain spring is a favorite resort, and even that the Sacrament cup and holy wine is not exempt. We further know many of our worst diseases are directly traceable to these organisms, each having his preferred mode of attack and selected soil. Probably one of the best known now is the bacillus of Eberth, which, by drinking water, milk or what not, insidiously steals along the alimentary tract, and, finding a suitable camping ground at Peyer's patches, flourishes and multiplies to such an extent that he moves his habitat to neighboring tissues; and, continuing to trespass, the integrity of the tissues is so upset that we have a patient. Usually his age will be between fifteen and forty years (this of some diagnostic value); he has headache, insomnia, furred tongue, flagging energies, disturbed circulation, anorexia, epistaxis. He thinks he is "bilious;" we too often concur and order mercury and podophyllin. The patient departs, partakes of hog sausage, coarse beef, hard boiled eggs, heavy bread, chicken salad, fruit cake and such poisons, when we are summoned again. Our diagnosis should have been made before, but the diagnosis of typhoid fever is not always easy. Even in uncomplicated cases a careful and exhaustive physical examination of the patient and investigation of surroundings are always necessary. All are familiar with the array of its symptoms so nicely arranged in text-books, and few of us prepared for the serum tests; hence it is an individual study of each case and the intelligence of the practitioner that

*Read during the session of the Tri-State Medical Association of Virginia and the Carolinas during its meeting at Charlotte, N. C., January 18-20, 1899.

decides. For instance, the characteristic temperature record of the so-called step ladder temperature, is in many cases a curiosity. The pulse is not necessarily characteristic and certainly not pathognomonic.

Enlargement of the spleen is of strong diagnostic value combined with other signs. It is usually palpable by the eighth day, and if there is not too much tympanitis, this disappears as the fever lessens. Septicæmia, malaria and miliary tuberculosis should here be excluded. Rose spots are important signs, and when present, are typical; but I have never seen them in more than thirty per cent. of the cases; their appearance is usually on the ninth day. Gurgling in the right iliac fossa must be looked for, but many intestinal troubles have these and all the diarrhoeas; so, if accompanied by tenderness, and, if we can exclude appendicitis and pelvic abscesses, then we may expect typhoid. The initial chill amounts to very little so far as a diagnosis is concerned; for often as many as six chills may, at varying intervals, occur in unquestionable cases of typhoid. This is misleading, and in my section of South Carolina, where malaria abounds, often is the cause of confusion.

Thus—*First*. In typhoid, we have the initial chill.

Second. Chill at onset of relapse;

Third. Result of antipyretics;

Fourth. At ushering in of complications, as pneumonia, pleurisy, acute otitis, suppuration in mesenteric veins, pyæmia, abscess of kidneys, perforation, etc.;

Fifth. During convalescence in bad cases; and,

Sixth. When concurrent malaria exists, this is rare.

To recapitulate, I look for the following, and combined, consider them accurate: Malaise, headache, chilliness, pain in back and limbs, tongue pale and indurated (in beginning), margins indented. *It is put out slowly and retracted indifferently*; there is confusion of ideas and mental torpor; tinnitus aurium, epistaxis, ascending pyrexia, photophobia, anorexia, rose spots, gurgling and tenderness in right iliac fossa, constipation or diarrhoea, and lastly vertigo. This I regard of real value. The patient, on attempting to stand erect, trembles and the nervous symptoms are pronounced. There a diagnosis is to be made from cerebro-spinal meningitis, for many cases of typhoid begin as typical meningitis. Fortunately, the latter trouble is rare, and other symptoms, with surroundings, usually settle doubts. So much for the diagnosis.

Now, how shall this disease be treated?

Within the last few years, over eleven hundred remedies have been tried or suggested for typhoid fever. All sorts and kinds of food have been advocated: Hydrotherapy and antipyretics for the temperature; intestinal antiseptics, etc. While special symptoms, arising in the natural course of the disease, have been experimentally dealt with by almost every resource of the pharmacopœia, there are few measures or means at the command of the physician which fulfill our wishes invariably, and none which, in all cases, so far promises to be a specific. Therefore, he who adopts any one fad, to the exclusion of all other efforts, be it in the line of hydrotherapy, antiseptics, or what not, fails in his duty to his patient, his profession, and himself. It has been said, "The best treatment is a good physician"—one knowing the natural course of the disease, and able therefore to intelligently anticipate its various complications and phases. Knowing these, how can he have any radical fixed schedule which can be best for all cases and their inconstancies?

He should be watchful and conservative, backed by judgment to adopt such measures as his good sense will, in individual cases, dictate—it may be Woodbridge or Brand, in whole or in part, or probably a happier medium by the combined antiseptic and hydrotherapy methods; judgment must be exercised in mode or manner of each. Unquestionably, hydrotherapy, variously modified, is, for its indications, the best treatment known, always to be used in hospitals and in private practice when possible. The treatment summarized embraces:

1. General management and nursing;
2. Diet;
3. Treatment of the temperature;
4. Antiseptic medication;
5. Treatment of special symptoms;
6. And the convalescence.

General Management.—A typhoid patient should be in a cool, well ventilated apartment, confined to the bed from the onset, and remaining until convalescence is well established. The woven wire bed, with soft hair mattress, is best. A rubber cloth should be under the sheet, a good nurse in charge, and the physician should, at each visit, write out specific instructions.

Diet.—Foods easiest digested, and obviously those leaving behind the smallest amount of residue. Milk heads the list, and, ordinarily, about three pints should be given an adult in twenty-four hours. It is often advisable to dilute this with water, lime water, or even aerated waters. It should be given at regular in-

tervals and care exercised, for too much leaves masses of curd and thus prove irritating. The usual broths, chicken or mutton, come next, and many of the beef juices are good. Water should be given in abundance, and pleasantly cool. My experience justifies making this of paramount importance, and I wish I could go into the merits.

Treatment of the Temperature.—Bathing or sponging should be used, and not the coal tar antipyretics. Sponging with cool water is the preferred practice with the most successful physicians of my section. Dr. J. P. Simpson, of Laurens, S. C., who deservedly enjoys a great reputation, and has had extensive experience with typhoid fever, has, to my certain knowledge, had amazing success in the last two years.

Dr. Simpson's method of administering the bath is to place a wire cot by the bed; upon this lay a piece of oil cloth and cut an opening in centre for water to escape into the vessel below, the weight of the patient causing the cloth to dip, thus throwing water to centre; patient, stripped, is sponged with water at a temperature of 70° F. In some instances, it is poured over the body of the patient, always using it when temperature reaches 102½° or 103°, and repeating, as often as necessary, to control this temperature; friction is used while administering the bath—to the point of bringing glow; apply the "cold-pack" to head.

Antiseptic Medication.—The efforts to settle upon an agent destructive to the typhoid bacilli, or the toxin they produce, so far is a failure. Some adopt "Yeo's plan" of the chlorine water; it has not been satisfactory, but certainly does no harm; therefore, it is a pious fraud. The intentions are good. For my own part, salol is the remedy when no cardiac complications exist.

Treatment of Special Symptoms.—For tympanites and abdominal pain, turpentine stupes; for diarrhœa if severe, starch and laudanum enema or sub-gallate of bismuth; no opium, even in the form of *Dovers' powders*. Constipation, if demanding notice, is met by Hunyadi water. As to hemorrhage and peritonitis, the two grave complications, all are familiar with, and I suppose all treat alike. For the nervousness, hydriotherapy again comes into play, and cold water to head; after the sponging and cold water cap, the result is usually so satisfactory as to admit of no strictly medicinal sedative. Brandy and strychnia head the list for progressive heart failure; digitalis is not good.

Convalescence requires even as much care and watching as the acute and active stage of the disease. Over-eating and too much exer-

cise are usually the cause of relapse. The other minor details fall in line too naturally to tax your patience here; so I relieve you.

Proceedings of Societies, etc.

JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

Meeting February 6, 1899.

Dr. Cullen presented the record of a

Case of Primary Adeno-Carcinoma of the Appendix, which had been prepared by Dr. Hurdon.

DISCUSSION.

Dr. Kelly said he had been paying close attention to the relation of appendical disease to pelvic diseases for a long time. We meet with appendical disease in a great variety of relationships. We may have cancerous disease of the appendix, as in this case, where there was an adeno carcinoma, which showed no relationship to the pelvic disease; but, on the other hand, we meet with cases in which the disease is dependent upon the condition of the pelvic organs. He had within forty-eight hours last week five cases in which he had to remove the appendix.

Where the disease depends upon disease of the pelvic organs the appendix may become adherent to the diseased organ, that is, to a uterine fibroid or an ovarian tumor. Then, again, we meet with a class of cases in which the appendical disease has followed an operation; those are more rare, but quite interesting. After a clean operation in which a diseased tube or ovary has been enucleated the patient within a few months or a year may complain of pain in the right side. The abdomen is opened and the appendix is found adherent to the seat of the former operation. He has had such a case within the past ten days where the appendix was long and adherent to the old wound. It is important to bear the possibility of this in mind. Always inspect the appendix whenever a laparotomy is performed.

Demonstration of Intestinal Anastomosis by Means of a New Forceps.

Dr. Ernest Laplace, Philadelphia, stated that the object of this demonstration was to show an instrument for facilitating the operation of anastomosis. Without entering into a consideration of the operations done heretofore for this purpose, all of which have their advantages and disadvantages, it is agreed among surgeons that the ideal operation is

that performed by means of sutures—that operation by which the ends of the gut are sutured together, whether we use a continuous, a Lembert, or other suture. Any apparatus, any instrument, any contrivance that can facilitate the accomplishment of this operation is, he said, to be studied, and, if it possesses any merit, to be adopted in such cases as require rapidity.

He had been trying for some time to devise these simple forceps, which consist of only two ordinary hemostatic forceps, bent or curved at the end into a semicircle, so that when the two are placed together they form a complete ring or circle, being held together by a little clasp. These two rings subserve the same purpose as the Murphy button or the Halsted rubber bags or any other support within the gut, and, in addition, no matter what stitch is used these rings can be removed before the last stitch is taken without any difficulty.

Dr. Laplace then demonstrated the manner of suturing the stomach to the intestine, the purpose being to unite the gut to the stomach. Putting the two openings together, he introduced one blade of the forceps into the stomach and the second blade into the intestine and clasped them. The sutures were then readily introduced. When he had sutured the bowels all around, except where the handle of the instrument projected through the wound, he then removed the clamp, which allowed the two halves of the forceps to fall apart, and drew out each half. He then inserted a stitch to close the opening left for the removal of the forceps and the operation was finished. He afterwards made an opening into the stomach and demonstrated that the gut was perfectly patulous.

Dr. Laplace next demonstrated an end-to-end anastomosis. In answer to Dr. Cushing's question, "What would you do if you had to anastomose guts of different caliber?" he said that he would invaginate the two ends, and for that purpose had devised a little instrument for catching the gut at its border and dipping it down into the other before stitching it nearly all the way around and then withdrawing the forceps. This, he believes, meets all the possible indications for operation upon the intestines.

DISCUSSION.

Dr. Halsted thinks that for a lateral anastomosis this instrument promises all that Dr. Laplace claims for it, and we shall certainly give it a trial very soon. It is much quicker, he says, than the method we employ. He thinks it would be of great assistance, espe-

cially for cholecystenterostomies. It is possible, of course, to do this operation without an instrument, but it is a very difficult one.

New Operation for Vesico Vaginal Fistula.

Dr. Kelly said that the great difficulty in handling certain cases of vesico-vaginal fistulae may be due to two facts. In the first place, the fistula may be a very large one, and, in the second place, there may be such an amount of scar tissue surrounding the fistula that its resistance prevents bringing together the parts. A most important finding has been the recognition of the fact that the bladder-tissue itself is not often seriously involved in the scar tissue, and the bladder can be drawn down and sutured to itself so as to close the fistula. This is a very important factor in the treatment of certain of these cases that cannot be treated in the classical way. He referred to a case that came to him upon which an abdominal hysterectomy had been performed for fibroids. There was a large fistulous opening into the bladder from the vault of the vagina. It was very close to the peritoneum, high up in a vaginal vagina; had been operated upon several times, and there was an abundance of scar tissue. The edges of the fistula were of such character that he could have no hope of bringing them together and securing union. He opened the abdomen with the intention of exposing the pelvic floor, so that he might dissect the bladder away and sew it up. The patient had a very large ventral hernia, and, unfortunately for the facility of the operation, was very fat. He opened the abdomen, but in attempting to separate the bladder it began to tear, and tore so widely that he saw at once that a successful operation as planned would be impossible. He then cut through the top of the bladder to see if he could get at it from the inside to bring the edges together. He could not do this, and therefore enlarged the opening to draw the parts together, but found this could not be done satisfactorily, and was compelled to follow a novel plan, which succeeded. The bladder was widely opened, in fact split in half; he found the bladder in front of the fistula fairly movable, and made a horseshoe shaped denudation around the fistulous opening, excluding it altogether; then, passing catgut sutures, he brought the edges of the denuded arc together. He then introduced a drain through the vagina up into the peritoneum. The patient made an immediate and perfect recovery.

Dr. Kelly then referred to a second case, in which he could not get at the fistula from below. In this case he opened the abdomen, separated the bladder, freed the fistula on both

sides and brought the edges together with catgut and closed up the abdomen. The result was a perfect recovery.

Dr. Kelly further said, with reference to the first case, that he did not excise the portion of the bladder that contained the fistula. He left it in the peritoneal cavity, protected by a drain through the vagina. The fistula is now completely closed.

Nodular Tumors of the Pancreas.

Dr. Flexner, after exhibiting the pathological specimens from the pancreas, stated that an enlargement made out during life proved at autopsy to be a tumor closely associated with, but not directly connected with, the liver, but lying directly below and behind the liver, covered by omentum, intestine and a bit of the stomach. It proved to be a tumor which had developed in the pancreas, and was of an unusual nature. The duodenal portion, the head of the pancreas, was still present and very little altered, being quite normal in appearance. In searching for the body of the pancreas, however, nothing could be found to represent it except a band running over the tumor from right to left, which measured four or five millimeters in thickness, and showed the lobulations of the pancreas. The tail of the pancreas was probably about its normal length, but not of normal appearance. The tumor, therefore, must have developed in close approximation with the pancreas, and at first it seemed to have come from behind. There were a number of cysts containing granular material.

He said that on section, however, a different condition was made out. The tumor was found to consist of two nodules, one the size of an orange and the other the size of a child's head at birth, and these had developed within the substance of the pancreas, occupying the body and a portion of the duodenal end. Although developed within the pancreas, they were separable by capsules, which proved to be also pancreatic tissue, consisting of a series of cysts.

Upon histological examination, it was proven that the tumor was an adeno-carcinoma, the type being that of the pancreas. There was no doubt, he said, that the tumor had its origin in the pancreas, and yet apparently it was separated from the pancreas. He said he thought it possible that the two masses might have developed from aberrant pancreatic tissue deposited in the pancreas.

Lymphatic Leukemia.

Dr. Flexner exhibited first a large mass, consisting of the inguinal glands, pelvic glands

and retroperitoneal glands, all practically constituting a continuous mass, which had been removed at autopsy. The tumor consisted of tumor formations that had developed in the glands and run together, because the tissue binding the glands together had been implicated, more especially in the inguinal and pelvic glands. Over the inguinal region the skin was in part adherent to the enlarged glands, and the subcutaneous tissue was oedematous.

Another specimen showed the bronchial, tracheal and cervical glands, all of which were markedly enlarged. Dr. Flexner called attention to the axillary glands, which showed the manner in which the glands were bound closely together over the surface of the tumor. This is an important diagnostic point in the differentiation of leukemia and pseudo leukemia. Practically all the glands explored were enlarged, the tumor masses being for the most part soft, and on section presenting medullary appearances.

The viscera were free from invasion. There were two small nodules in the spleen, but no considerable metastases. The glands in the neighborhood of the pancreas had also caused invasion of that structure to some extent. In the liver there were no nodules, but some extensive new growth, which followed the blood-vessels.

The question of interest seemed to be "What was the disease primarily?" Has it been a case of lymphatic leukemia always, or did it start as a pseudo leukemia? To his mind, he said, the explanation that seemed most probable was that it was one of the pseudo leukemia. It presented all the gross anatomical characteristics of that disease.

Dr. Fletcher, in referring to the first case, said he wished to emphasize the fact that the tumor felt in the umbilical region was not clinically believed to have any connection with the liver. The symptoms present during life should have made one suspect pretty strongly a pancreatic tumor, for the patient presented all the symptoms that are supposed to be characteristic of such a tumor—persistent jaundice, an enlarged gall-bladder and nausea, vomiting, and clay-colored stools of a greasy character.

Referring to the second case, he said that from the first the glands did not present altogether the picture of lymphatic leukemia. The blood count showed characteristic features of lymphatic leukemia, but the symptoms, as a whole, suggested the presence of pseudo leukemia.

Analyses, Selections, etc.

Arthritis in Childhood—Its Varieties and Their Diagnosis^{*}

Simple as seems this subject at first sight, the more one sees of the various forms of arthritis that occur in children, the more one is impressed with the difficulty of diagnosing one variety from another for prognosis and efficient treatment.

As much tenderness with swelling and redness of joints in a child always raise a suspicion of something else, it is not easy to diagnose the articular rheumatism of childhood where the severity of joint symptoms is quite the exception, but in children the following symptoms, which are far commoner than in adults, will materially assist the diagnosis: The presence of (1) a distinctly endocarditic bruit, and (2) subcutaneous nodules, neither of which is to be looked upon as a clinical curiosity, but as a valuable aid to positive diagnosis.

A history of rheumatism in the family is of some value; but too much stress must not be laid on it as it is very common to get a family history of acute rheumatism, where the child shows no rheumatic taint whatever.

When you see a baby with swellings about the joints, you can be pretty certain that it is not rheumatic; as there is practically no such thing as articular rheumatism in infancy.

Always inspect the child's gums and bear scrutiny in mind when you are tempted to diagnose rheumatism in an infant, for there are few diseases that respond so rapidly to treatment or so closely simulate rheumatism as scurvy.

Epiphysitis, whether syphilitic or otherwise, has been mistaken for rheumatism; but the extreme local tenderness, the œdema extending beyond the joint, the severe general illness and the occurrence of suppuration in one or more of the affected joints speedily settle the diagnosis.

Except when there is a distinct history of syphilitic infection or it is concurrent with ophthalmia neonatorum, gonorrhœal arthritis is very hard to diagnose without bacteriological examination, though it does occur in infants as well as in older children, and last year Dr. Lees treated a girl, æt. 35 months, who had

a profuse purulent discharge from her vagina, while her hands and wrists were swollen and painful. On treating the vaginal discharge, the tenderness of the hands disappeared quickly, but the swelling remained for some weeks.

The stiffness of the neck, tenderness and pain about the shoulders, and some rise of temperature that mark the onset of infantile paralysis, occasionally suggest the possibility of rheumatism.

Monarticular rheumatism is apt to be very puzzling in children, and the tendency to affection of the hip joint in the rheumatism of childhood has caused curious errors of diagnosis. Thus two children were admitted, the one for perityphlitis, the other for intussusception, because among other symptoms both children complained of pain in the right iliac fossa; but subsequent events proved the whole trouble was rheumatism of the right hip joint.

Gouty arthritis does occur, though with extreme rarity, in childhood, and a few instances are on record where undoubted and severe hysteria simulated rheumatism in children under twelve years of age.

So much for acute rheumatism. Let us now discuss chronic fibrous rheumatism, which is distinguished from the former by the inflammatory process extending outwards to the surrounding structures to produce adhesions and thickenings that enlarge and permanently fix the joint.

The diagnosis of this condition depends partly on the curious firm fibrous thickenings about the joints, and partly on endocarditis, subcutaneous nodules and other well known rheumatic manifestations; but it is likely to be confused with the various forms of rheumatoid arthritis, of which two forms are usually seen in children.

The first of these is a progressive polyarthritis, which begins, usually, before the second dentition, and affecting almost every joint in the body, produces effusions into the joint cavity, thickens the capsule, causes changes in the cartilage, and is associated with enlargement of the spleen and other glands. The joints show fusiform thickenings, while there is no osteophytic change nor lippling nor thickening of bone; but, unlike rheumatism, for which the acute onset of this disease is often mistaken, it is never associated with endocarditis, and usually beginning within the first three years of life, is rarely met later than the sixth year, and is quite unlike a tubercular disease, as there is no tendency to cædation of bones nor to tuberculosis elsewhere.

The second edition of this vague group re-

^{*}A special report was made for the *Indian Medical Record*, December 1, 1898, of a lecture on the above subject, delivered at the Great Ormond Street Children's Hospital, by George F. Still, M. A., M. D., M. R. C. P., Medical Registrar and Pathologist to the Great Ormond Street Hospital for Sick Children, London.

sembles the rheumatoid arthritis of adult life in all points. There is no enlargement of the spleen or other glands, and no rheumatic complication, though there are slow enlargement and stiffness of several joints and osteophytic changes with lipping of bone which settle the diagnosis. This form of the disease usually begins after the age of six years, and can also be distinguished from tubercular disease by its extremely chronic course, the absence of other evidence of tubercle, the symmetry of the affection and the number of joints involved.

Though the two classes overlap in their pathology and bacteriology, *septic* arthritis may clinically be classified as arthritis (1) with specific fevers, and (2) with a primary focus of infection.

The arthritis that follows scarlet fever and diphtheria is not always a transient affair, and seems to be most common after severe faucial affection; but the extreme constitutional disturbance, the exquisite tenderness of the joints, and the presence of œdema over them, are the determining points against rheumatism.

In most of the cases of arthritis following measles, there is some severe lung complication, which may be the source of the arthritis.

Influenza sometimes gives rise to a septic arthritis, which occasionally follows mumps, or may be result of erysipelas.

Quite early in typhoid in children there sometimes occurs a transient arthritis which is indistinguishable from rheumatism till it reaches the suppurative stage; yet there are cases where articular rheumatism, in a child, has given a temperature chart like that of typhoid.

In the second group the arthritis has its origin in some definite localized source of infection, such as otitis media, empyema, bronchiectasis, and syphilis.

In posterior basic meningitis of infants there is sometimes a swelling about one or more joints which might be put down to arthritis; but if the swelling be cut down on, the joint will be found perfectly healthy while the lesion consists of a lymph-like exudation about the tendon sheaths, in the neighborhood of the joint and round its capsule.

Tubercular arthritis, though at first somewhat confusing, may be distinguished by the characteristic "pulpy" feeling of the joint, the evidence of the tuberculosis elsewhere, and the course of the disease.

In septic arthritis due to any of the above causes the joint affection may be (1) quite a transient affair, or (2) may result in permanent thickening and adhesions with any de-

gree of fixation up to complete fibrous ankylosis of the joint, or (3) there may be suppuration and complete disorganization of the joint.

But whatever the cause, the characteristic feature of the whole group of septic arthritis is, that the infection instead of *per se* being a progressive condition, is a sudden flare up which, lasting weeks or months, seems to burn itself out, and leaves only its traces behind. This fact, together with the history, will usually enable one to distinguish septic arthritis from the rheumatoid arthritic group, especially as in septic arthritis the limitation of movement is often altogether out of proportion to the apparent alteration of the joint.

A Rare Combination of Fracture and Dislocation of the Shoulder

In Lieferung XXVI of the *Deutsche Chirurgie*, Professor Kronlein describes a dislocation of the humerus downward and inward, due to direct violence. The blow was received from above, upon the acromion, and only dislocated the humerus after it had broken that process.

Professor Stimson quotes the case as a unique one, in his new book on "Fractures and Dislocations."* Before the book had found its way through the press, Professor Stimson himself had, toward the end of last December, the opportunity to observe a case with the same condition, in his service at the New York Hospital. The injury was caused by a brick falling from a height upon the outer curve of the left shoulder. The point of impact was clearly demonstrated by the presence of an abrasion just beyond the outer edge of the acromion. The head of the humerus lay close beneath the coracoid process. The acromion was broken at its base and displaced downward and inward, with dislocation of the acromioclavicular joint, and could be moved with slight crepitus. The joint surface of the clavicle could be distinctly felt through the skin. Reduction was easy by traction and direct pressure upon the head of the humerus. The acromion returned to its place, and there was no tendency to recurrence of the acromioclavicular dislocation.

As this form of direct violence—a blow on the point of the shoulder—is not at all rare from falling objects, the stroke of a stick or club, or even a fall, it seems more than possible that this special combination of fracture and dislocation at the shoulder is not so rare as might

* A Treatise on Fractures and Dislocations, by Lewis A. Stimson, B. A., M. D., Professor of Surgery in Cornell University Medical College. Lea Brothers & Co. Just issued.

seem to be the case from consultation of the literature of the subject. It is very probable that now, since the exact character of the lesion is clear, cases of it will be reported oftener.

The exact knowledge of all the conditions present in a lesion of this kind is so important, because of the invaluable indications it gives for proper treatment, that this study of the details of certain forms of trauma is eminently desirable. It is too often the custom to diagnose the principal lesion present in a fracture and dislocation, missing its complications unless they are very serious or striking, and risking defective results of treatment. Therefore, this spirit of thorough inquiry into the details of such lesions that characterizes Prof. Stimson's acute observation in this case, should prove contagious, and the treatment of these conditions will be lifted from the plane of more or less unsatisfactory empiricism on which it now rests to one of thoroughly scientific principles and practice.

Inhalation of Campho-Menthol in Diagnosis of Pulmonary Tuberculosis.

Dr. Dunbar Roy, of Atlanta, Ga., writes to *Medical News*, January 28, 1899: "Every sign and symptom which will aid in the early diagnosis of pulmonary tuberculosis will be of great value to the physician. The ordinary physical signs are familiar to us all. There is one subjective symptom which has proven of very great value to me in revealing an early pathological change in the lungs in those cases in which the ordinary physical signs were absent. This diagnostic sign I have used for the last four years, and have followed up the cases subsequently, and almost without exception it has proven to be trustworthy. It is a well-known fact that in pulmonary tuberculosis one side usually becomes affected first; and furthermore, that the process is usually more severe on one side than on the other. The diagnostic symptom as used by me is as follows: If the patient is made to take a deep, strong inhalation of campho menthol in alcohol (20 drops to 3j) from an atomizer at thirty-pound compressed air pressure, and he then be asked upon which side of his chest he feels most distinctly the cooling sensation of the campho menthol, he will almost invariably tell you on the least affected side, and the degree of cooling sensation will be less the more diseased the lung tissue should be. In cases in which there is marked consolidation on one side and very slight on the other, the patient may even be unable to feel the cooling sensa-

tion whatever on the most affected side. If in the very earliest stages, when the ordinary physical signs fail and something leads one to suspect from the history that pulmonary tuberculosis is present, he makes use of the campho-menthol inhalation, and if he then notes that the patient says the cooling sensation is decidedly more distinct on one side than on the other, he will almost invariably find that later the side of less distinct sensation will show the ordinary physical signs of pulmonary tuberculosis.

"The test is, of course, not meant to apply in acute pneumonia or capillary bronchitis and acute pulmonary troubles of this kind, but simply in those cases in which there is a suspicion of pulmonary tuberculosis. Even in such cases as these, however, it might show the symptoms of some consolidation and exudation in the smaller bronchial tubes, yet I have never had occasion to test it in these cases. I have had cases in which there were absolutely no signs of anything but a chronic bronchitis, and yet these same patients under the campho-menthol test have revealed pulmonary tuberculosis which later became fully developed. In simple chronic bronchitis, the patient will feel the whole chest glow with the cooling sensation almost as perfectly as in normal lungs, and yet when tuberculosis is present, even though they are strong and hearty, the sensation may not be felt below the top of the sternum.

"Perhaps there are others who have noted these same symptoms, but I have never seen them recorded. I should be glad to have the test given by others and to see published honest criticisms, even though adverse, for I do not claim that it is an infallible sign."

Alcohol, the Antidote for External Carbolic Acid Poisoning.

Dr. A. M. Phelps, New York, N. Y., refers (*N. Y. Med. Jour.*, Jan. 14, 1899,) to a case, reported by Dr. Bernard Weiss, of local poisoning with pure carbolic acid injected into the vagina with a fountain syringe, the patient having put pure carbolic acid into water after it had been introduced into the fountain bag. He treated the case with sodium-sulphate solution. This sodium sulphate forms with carbolic acid a sulphocarbonate of sodium, and neutralizes the effect of carbolic acid. Dr. Weiss also states that "this chemical antidote even Witthaus fails to mention in his *Chemistry*."

No doubt sodium sulphate does exercise a soothing effect in local carbolic-acid poisoning,

but it will not prevent the blistering or the deep escharotic effect of carbolic acid when applied pure to the tissue. The profession needs an antidote that will *at once neutralize the effect of carbolic acid*, and render it in a moment's time perfectly inert, no matter how or to what tissues applied.

Dr. Seneca D. Powell, of New York, has for a long time used in his clinics at the Post-Graduate Hospital an antidote, alcohol, that we have all come to recognize as a specific. It is not an unusual occurrence to see Dr. Powell catch in his open hands a quantity of pure carbolic acid, poured into them by a nurse from a bottle. In a few moments the doctor puts his hands into a basin of pure alcohol, and no escharotic effect is observed whatever from the action of the carbolic acid upon the skin. At present time we are flushing out abscess cavities with pure carbolic acid and washing them out a few moments later with pure alcohol. In empyema Dr. Powell, after making a large opening in the chest wall, washes out the cavity with a ten-per-cent. solution of carbolic acid, after which pure alcohol is used, and no bad effect has thus far been observed from this treatment. The cavity of the pleura is rendered aseptic. From personal observations and demonstrations in the use of pure carbolic acid, followed by the use of alcohol, Dr. Phelps states positively that we have in alcohol an absolutely safe and sure specific against the escharotic action of pure carbolic acid. This fact should be given wide publication, because in cases of carbolic-acid poisoning with homicidal intent, if, immediately after the administration of the poison, alcohol was thrown into the stomach of the individual, the poisonous effect of carbolic acid would be at once neutralized. However, as to the subsequent constitutional effect from the absorption of the new compound formed Dr. Phelps cannot speak, but certainly in all cases of local carbolic-acid poisoning, particularly in such a case as that mentioned by Dr. Weiss, alcohol is an absolute, powerful, and immediate specific.

Necrotic Rib and Muscle—Lumbar Abscess History.

Dr. Branham, of Baltimore, reported to the Clinical Society of Maryland, held in Baltimore, February 3rd, 1899, a very interesting case he had recently, a girl 14 years old, who had all the symptoms, including the family history, of the typical lumbar abscess. She had elevated temperature, with pain in the lumbar regions, and afterward much agony in the right lumbar region. There was a large

fluctuating abscess mass in the lumbar region, extending well behind the kidney, and everything pointed to tubercular abscesses. The abscess was evidently approaching the surface in the lumbar region, and he decided to give an anæsthetic and operate. Concluding that there was some other trouble—something more than tubercular abscess—he made an oblique opening through the posterior part of the abdominal muscles into the cavity, and found that the deep muscles had, in some way, become necrotic. He tried to get cultures, but did not succeed in getting anything very definite. There was an immense mass of necrotic muscular tissue in the deep part of the transversalis muscle, and the eleventh rib was also necrotic. The whole cavity was thoroughly cleaned out, flushed with bichloride solution, 1:4,000, and sterile salt solution. As far as the physical condition is concerned, the patient is perfectly well, walking now without any limp at all; and has regained her flesh and seems to have recovered entirely.

Role of the Spleen in Experimental and Natural Infections.

It has long been known that in many infectious diseases the spleen swells up, and shows marked changes in its histologic structure. The exact rôle of the spleen, however, in the "struggle" of the organism against infection is still somewhat obscure. The results of experimental splenectomy, observed by various investigators of this problem, do not at all agree. Among the more recent investigations in this line may be mentioned those of Courmont and Duffau,* and of Blumreich and Jacoby.† The first named authors found that the spleen did not play the same rôle in all infections. Sometimes it seemed to be useful, at other times even harmful, all according to the nature of the infectious agent. Its action upon the toxins of the microbe may differ from that upon the microbe itself, and the same animal may react differently to infection soon after removal of the spleen than later. They think that these apparently so contradictory results are explainable, perhaps, by the condition of the fluids of the body and the modifications that result in the fluids after removal of the organ.

Blumreich and Jacoby established first, that complete extirpation of the spleen does not produce any readily recognizable harmful influence upon the health and vitality of the animals. On comparing the course of experi-

* Archiv. de Méd. Experim., 1898, x.

† Zeitschr. f. Hyg. u. Infektionskr., 1898.

mental infections in splenectomized animals with that in normal animals, they found that after removal of the spleen, diphtheria infection is withstood just as well as under normal conditions. Splenectomy does not hasten death from anthrax infection, which produces about the same effects and pursues the same course, whether the spleen be present or not. Animals which are deprived of the spleen seem to with stand pyocyanus infection better than normal animals, and the same seems to be the case, as far as can be judged from the experiments of these authors, with regard to cholera bacteria. It, therefore, seems to be quite definitely ascertained that the experimental removal of the spleen may have an apparently favorable influence upon the course of certain infections.

The experiments bearing upon the course of experimental bacterial intoxications after splenectomy seem to show that here it makes no particular difference whether the spleen is present or not. The ligation of the splenic vessels, the spleen being allowed to remain, seems to have the same influence upon subsequent experimental infection as does splenectomy. On testing the bactericidal powers of the blood after splenectomy, it was found that they are somewhat increased; whereas the blood does not seem to acquire any new properties toward toxins. One of the striking changes in the blood after splenectomy is an increase in the number of leucocytes, especially the lymphocytes. This has been known for some time, but in order to establish with absolute certainty that leucocytosis develops after splenectomy in guinea pigs, our authors pursued original investigations in regard to this point also, and they found that an actual hyperleucocytosis does develop after splenectomy; a leucocytosis which is not explainable as due to the operation wound only, because no such increase in leucocytes developed in four guinea pigs, in which the same operation, as for splenectomy, was made, with the exception that the spleen was not removed. Kurloff, who worked in Ehrlich's laboratory, also found that splenectomy in guinea pigs is followed by leucocytosis.

As will have been observed, splenectomy is followed by increased resistance to certain infections, by increase in the bactericidal powers of the blood, and by increase in the number of leucocytes. It, therefore, seems reasonable to suppose that the leucocytosis and increase in the bactericidal powers after splenectomy stand in close causal relation. This is in accordance with the results of the numerous investigations of various authors concerning the bactericidal powers of the blood, which have appeared dur-

ing the last few years. The remarkable fact in connection with these observations is, that the leucocytosis develops under entirely different circumstances than heretofore noted. In order to still further clinch this point, the authors made the following experiment: They inoculated fourteen animals with the bacillus pyocyanus; a few hours after inoculation, they removed the spleen from eight. The results were as follows: of the eight, six died; and of the six which retained their spleen, only two died. The results, as were to be expected, are therefore diametrically opposite to those observed when the infection takes place after the splenectomy, and bring forth further proof of the importance of the hyperleucocytosis and other changes after splenic removal.

Further investigations are, of course, necessary in order to establish whether or not other changes of a chemic or morphologic nature occur in the organism after splenectomy. As regards the kind of leucocyte which is responsible for the leucocytosis after splenectomy, our authors give no information, but Ehrlich makes the statement, on the basis of Kurloff's experiments, that the leucocytosis depends upon an increase in the lymphocytes. By lymphocytes Ehrlich means cells of about the size of a red blood corpuscle, provided with large round homogeneous nuclei, surrounded by a small rim of protoplasm. Blumreich and Jacoby's experiments, therefore, seem to show that the protective powers of the blood of splenectomized animals may depend upon the increase in lymphocytes. Another explanation of the increased resistance of splenectomized animals might be suggested—namely, that the spleen during health retains the detritus of disintegrated leucocytes and other cells; this leucocytic detritus is currently regarded as being closely related to the alexines, and after splenectomy, it would accumulate in the blood, and thus increase its bactericidal powers.

How far are the facts deduced from the experiments above referred to applicable to clinical conditions? In infectious diseases, especially typhoid fever and malaria, the spleen swells up. Such a swelling does not necessarily need to be reactive and protective, but might be dependent upon injury to the organ, and resemble, for instance, the swelling of the kidney in acute degeneration in infectious diseases. Taking it for granted that the lymphocytosis after splenectomy influences infections in the same favorable way as it is acknowledged that increase in the polynuclear leucocytes does, then we have strong indications that the splenic lymphocytes produce alexines, and that the

splenic tumor of infectious diseases, which depends largely upon increase of the lymphocytes of the spleen, may play a similar rôle to the increase in the polynuclear leucocytes in many infectious diseases without splenic swelling. It is a well-known clinical fact that in typhoid fever and uncomplicated tuberculosis a very marked swelling may develop, whereas there is no increase in the polynuclear leucocytes. In pneumonia, polynuclear leucocytes increase and develop up to the time of the crisis, whereas the spleen remains within moderate limits, and Gerhard has shown that after the crisis the spleen begins to swell, while the polynuclear leucocytes diminish. Blumreich and Jacoby are inclined to emphasize this quite regular alternation of splenic swelling and polynuclear leucocytosis, and to look upon both these phenomena as of similar nature and significance. At one time, the lymphocytes are increased; in another case, the polynuclear leucocytes. It is in accordance with generally accepted views to assume that the different microbes influence, through chemotaxis, now one, now another variety of cells. The spleen would, therefore, seem to play an important part in infectious diseases because it is the origin of the lymphocytes.—Editorial in *Jour. Amer. Med. Assn.*, Feb. 11, 1899.

Malaria—Absence of Negro Immunity.

Capt. Fred. Smith, R. A. M. C., Bonthe, Sherboro, Sierra Leone, has an article in a recent number of the *British Medical Journal* on this subject, which is of interest to Americans. The matter of malarial non-immunity of the negro is illustrated by the incidence of the disease [malaria] on various races in Sierra Leone. Capt. Smith says: A short experience (barely six months) during one rainy season of malarial fever in Sherboro Island and the winterland of Sierra Leone has afforded an opportunity of observing the incidence of the disease on a newly arrived negro regiment as compared with the native population. The following is a brief account of the observed effects of the disease on different races in so far as they seem to bear on the debated question of immunity and on the existence of varieties of malarial organism. The facts may be taken to show that there is such a thing as immunity, though only of a relative kind; that the immunity is an acquired one; that the negro possesses no special immunity and that there is some ground for believing in the existence of more than one variety of malarial organism.

The negro natives of Sierra Leone appear to suffer in a mild degree only from the fever;

not alone that they are not frequently attacked, but that the attacks are not often fatal, and that the illness in their case is of a comparatively benign nature even when not treated with quinine. But in the soldiers of the West India Regiment—negroes from Jamaica, Barbados, St. Lucia, etc.—the fever is of a very severe and often fatal character, requiring prompt and careful treatment by European methods. Indeed, judging by the extent of sickness in the afore-mentioned regiment, West Indians are little if any better able to stand this climate than are the white officers and sergeants who command them. The contrast between West Indians and the natives composing the Sierra Leone Frontier Police, when serving in the field in the same column, was most marked; the former much troubled by fever, the latter having none.

Most writers—even to the author of the latest work on tropical diseases—ascribe an especial immunity to the negro race generally; but the behavior of the disease in respect to the West Indian negro, as set forth above, does not support this idea. Yet the latter are the descendants of negro slaves imported into the West Indies from West Africa. The right interpretation of this seems to be that negro races generally have acquired an immunity by long residence in malarious places, but that the exemption is not a racial attribute, and that the West Indian negroes have lost the immunity originally acquired by their forefathers. It is popularly supposed on the coast that they do soon acquire a comparative freedom from malaria—that is to say, that after serving for a year or so in West Africa, they cease to be troubled much by fever. Observations covering so short a period as that under review scarcely warrant any opinion as to whether this is a trace of their ancestral immunity remaining to the West Indians or is merely the same tolerance which is sometimes said to be acquired by European “coasters;” for the matter of that it is admitted on all hands, wherever malaria prevails, even by those who deny the existence of acquired malarial immunity, that the newcomer is not such a good “life” as is the man who has got safely over his first attack of malarial fever.

A study of the disease in West Indians again leads us to the inference that either the West Coast fever is not malarial, or it is a special variety. But numerous observers have reported the discovery in the blood of persons suffering from West African fever of plasmodia similar to those found in malarial disease in other parts of the world; and we may there-

fore take it for granted that our fever is a malarial one. Among other places we find that malaria flourishes in the West Indies, and it follows that the West Indian negroes have been more or less subjected to its influence all their lives. It might then be reasonably expected that these people would be to some extent malaria-proof as compared with Europeans; but, as before stated, it is not clear that they possess any advantage over the white races (in West Africa at any rate) beyond that due to their being accustomed to a hot climate. The explanation of this may be that the malarial organism of the West Coast is of a different variety to the plasmodium of the West Indies, and that immunity required to the first mentioned confers no protection from the second. It might of course be argued that the interpretation lies in the greater virulence of the African organism. Or, again, that other than malarial factors in the Coast climate reduce the West Indian to such an extent as to render him vulnerable to an organism against which he had obtained sufficient immunity to enable him to withstand it in his own country. To this it may be replied that if it were merely a matter of differing virulence, the less virulent would have conferred some measure of protection; and so to the Coast climate, it is, in the matter of physiological comfort, said to be not inferior to that of the West Indies.

A parallel case to that of the West Indians in Africa may be found in that of the Chinese in Borneo. When in Borneo the writer had an opportunity of seeing that Southern Chinamen employed on the tobacco estates suffered very severely indeed from malaria, their habituation to paludal fevers in their own country being apparently of no value to them in Borneo.

Prevalence of Small-Pox—Duties of Physicians to Urge Vaccination.

Medical Review, Feb'y 18, 1899, has so excellent an editorial on this subject that we copy it:

Public Health Reports, the official organ of the Marine Hospital Bureau, records the recent invasion by small-pox of 19 States and 63 localities in this country. Such a wide-spread contagion it is impossible to prevent from entering the larger cities, and it is but natural that health boards call attention, as they have done, to the necessity of vaccination, especially in this season of the year, where its spread among the susceptible is most likely to occur. The usual hygienic precautions for the purpose of diminishing the ravages of other infectious diseases are inadequate to furnish in even a small measure protection against so intensely

a contagious disease as small-pox. The good which vaccination accomplishes is no longer disputable by unbiased investigators. As a striking illustration of the effectiveness of vaccination in preventing small-pox infection, the *Supplementary Public Health Reports*, issued by the Marine Hospital Service, January 6, 1899, points to the fact that in 1871 Germany, with a population of 50,000,000, lost 143,000 lives by small-pox. In 1874, vaccination was made obligatory and the mortality has thereby been reduced to such an extent that to day only 116 victims succumb annually to the disease. Similarly striking instances have been reported on a smaller scale from numerous communities. If the lymph used for vaccination has been obtained, as it should be, under strictly aseptic precautions—precautions that are equally as thorough as those employed by surgeons in the operating-room, and the preventive process of inoculation is also conducted with the use of surgical cleanliness—the possibility of serious consequences, like the occurrence of septic infection, may be excluded with almost absolute certainty. While accidents of this kind have always been rare, they are reduced to a minimum where carefully gathered lymph is used and surgical cleanliness observed in the process of vaccination. As to the gathering of the lymph, it may not be amiss to call attention to the greater safety in preserving it in hermetically sealed glass bulbs. The glycerinated vaccine is thus preserved; and if such lymph has been gathered under careful aseptic precautions, all the requisites of a reliable material for vaccination have been fulfilled. There is no longer any excuse for physicians to neglect to urge the necessity of vaccination, as well as re-vaccination at adequate periods, especially in times of epidemics.

[In this section, practitioners are using vaccine as derived from the New England Vaccine Co., and from Messrs. Parke, Davis & Co., with satisfactory results.—*Editor Va. Med. Semi-Monthly.*]

Discharge of Large Vesical Calculus Without Pain.

Dr. H. B. Stewart, Fairview, S. C., reports (*Ga. Jour. Med. and Surg.*, Feb., 1899), the spontaneous expulsion of a stone from the bladder of a white lady aged 76 years, weighing 220 grains, without any pain being complained of. The only trouble she experienced was a frequent desire to be over the chamber for about one week beforehand. The doctor has the stone in his possession. It measures an inch and three-quarters long and an inch and a half in circumference.

Treatment of Diabetes Insipidus.

Dr. E. P. Cook, Frazier, Mo., has recently had the privilege to treat a number of these cases which has proven very successful so far. He is of opinion that diabetes insipidus is a purely nervous lesion. He recognizes that the diabetic center is an independent reflex center. After urinalysis, to be sure that it is a case of diabetes insipidus, he orders the wearing of a flannel next to the body, and lets the patient take all the exercise in the open air he desires. Do not keep him penned up in a warm room. Then:

R. Tinct. rhus aromatis..... 3 ij.
Tinct. belladonna..... gtt. xx.
Syrupi (or glycerin)..... q. s. 3 iv.

M. S.: One half teaspoonful every three hours during the day. Also

R. Acid gallic..... 3 ij.
Hydrastis..... 3 j.
Aq. pure..... q. s. 3 ij.

M. S.: Teaspoonful three times a day.

With reference to the first formula, never mix the rhus up in water; if you do, the mixture will not be nice.

Rhus aromatic is a stimulant astringent, and, according to the Eclectic, is indicated in all cases of over activity of the urinary organs where inflammation is absent and where there is no trace of sugar.

Belladonna acts on the circular fibres of the renal vessels, which lack tone in this disease.

Gallic acid is a powerful astringent to the urinary organs, and seems to aid the rhus in checking copious discharge of water.

Hydrastis is given because of its tonic influence—to build the patient up, and to give him an appetite.

After one or two weeks' treatment he generally drops the gallic acid, but continues the hydrastis, and adds five to ten drops of tinct. nux vomica to the hydrastis mixture. Continue the rhus and belladonna. Sometimes he uses a belladonna plaster across the back over the kidneys. In from six weeks to three months his patients fail to "show up" for medicine, claiming to be well.

Book Notices.**American Year-Book of Medicine and Surgery.**

Collected and Arranged with *Critical Editorial Comments by Twenty Nine Contributors, under the General Editorial Charge of* GEORGE M. GOULD, M. D. *Illustrated.* Philadelphia: W. B. Saunders. 1899. Royal 8vo. Pp. 1102. Cloth \$6.50; half Morocco \$7.50. (For sale by subscription).

This just issued "yearly digest of scientific progress and authoritative opinion in all branches of medicine and surgery, drawn from journals, monographs and text-books, of the leading American and foreign authors and investigators," is a work of constant utility to the practitioner. It is more recent than the most recent text-book, because of the number of able painstaking editors who have searched through all medical literature published during the year 1898. It is impossible to make a review of such a work within the limits of a journal notice. But when one takes into consideration that there are about 500 leading journals which are annually waded through by the contributors—besides monographs and text-books published last year—it will be seen that there cannot be much that is new and of importance to the practitioner that has escaped attention. The *Medical Semi-Monthly* has a right to feel complimented because of the frequency and fulness of notes taken from its pages. That the *Year-Book* is not "scrappy" literature, collected and jumbled together, may be inferred from the fact that 18 pages are given to *typhoid fever* alone, and the matter is systematically and critically arranged according to the advances during the year under the appropriate headings of etiology, pathology, symptomatology, complications and sequelæ, diagnosis and treatment. So that there is always to be found in the *Year-Book* something to supplement the most recent text book. What we have said with reference to typhoid fever applies alike to all other subjects concerning which new facts were brought out during the past year or two. Although the present issue is only the fourth year of publication, we have learned to look upon the *Year Book* as the last source from which we may hope to get important facts, whenever we are studying any subject up to date. This is a book that should be taken by all the medical libraries of the country, and there should be at least one in every town in connection with the local medical society. The contents of each volume is made readily accessible by the completeness of the index, which, in many instances, gives cross-references. We may add

Maltzyme.

If you are not using *Maltzyme*, you are failing to use one of the very best of nutritive agents that comes from the laboratory. It possesses all the good qualities of malt preparations as a tonic, and in supplying the mother with healthy, nutritious milk for her nursing.

that each page of the book contains about as much matter as there is on a printed page of this journal.

Text-Book of Mechano-Therapy. (Massage and Medical Gymnastics.) By AXEL V. GRAF-STROM, B. Sc., M. D. Late House Physician City Hospital, Blackwell's Island, New York. *With 11 Pen and Ink Sketches by the author.* Philadelphia: W. B. Saunders, 1899. Cloth. 12mo. Pp. 139. \$1.

This work is especially prepared for the use of medical students and trained nurses. The author has principally followed the system as practised at the Royal Gymnastic Central Institute, Stockholm, Sweden, with such modifications as are recommended by authorities of the science. It is a book that is of special interest to the trained nurse or to the student nurse, for it is extremely rare that practitioners have the time to carry out the details. We are sorry that the book did not take up the subjects of uterine and ocular massage; for although the treatment of diseases of the organs involved may belong mostly to the specialist, the trained nurse does not know what may be required of her as she goes from case to case.

Twentieth Century Practice *An International Encyclopedia of Modern Medical Science by Leading Authorities of Europe and America.* Edited by THOMAS L. STEDMAN, M. D. In twenty volumes. VOL. XVII.—*Infectious Diseases and Malignant New Growths.* New York: William Wood & Co. 1898. 8vo. Pp. 715. Cloth. Price \$100 for series of 20 volumes. One volume every 3 months.

Owing to unforeseen difficulties, the publishers state that they have to issue this volume in advance of XVI., out of its natural order. Such, however, does not impair the value of the system. This volume XVII. is taken up entirely with the subjects of *Diphtheria*, *Tetanus* and *Malignant Growths*—including cancer, sarcoma, etc. Drs. Wm. Hollock Park and A. Jacobi, of New York, prepared the 118 pages on diphtheria; Dr. Victor Babes, of Bucharest, contributes the article on tetanus, and Drs. John T. Bowen, of Boston, William B. Coley, of New York, Edward McGuire, of Richmond, Va., and W. Roger Williams, of Clifton, Bristol, England, occupy over 500 pages with malignant diseases. The subjects treated are of such vast importance in almost daily practice that this will be a welcomed volume. As one examines these volumes he is struck with the nice dovetailing of subjects. There is wonderfully little repetition in the various chapters. Each of the authors selected may be spoken of as

eminent authority in his special line of writing. It would be hard to point out a superiority of one chapter over another, for each is thorough so far as its appointed scope is concerned. Perhaps those portions of special interest to the general practitioner are those that relate to the treatment of diphtheria, the diagnosis of malignant conditions, and the treatment by mixed toxins of sarcoma, which Dr. Coley has been long adopting with very great success.

The entire series of twenty volumes will be completed during the present year. When completed, it will be a library in itself which, in conjunction with regular subscription to one of the *annals* (which several publishers are issuing), so as to keep pace with advances that are being constantly made all along the line of practice of medicine—will for years remain the standard authority.

Ocular Therapeutics for Physicians and Students By F. W. MAX OHLEMANN, M. D., Late Assistant Physician in the Ophthalmological Clinical Institute of the Royal Prussian University of Berlin, etc. *Translated and Edited by CHARLES A. OLIVER, A. M., M. D., one of the attending surgeons to the Wills Eye Hospital, etc.* Philadelphia: P. Blakiston's Son & Co. 1899. Small 8vo. Pp. 274. Cloth \$1.75.

This book serves a special purpose, both to the ophthalmologist and general practitioner. It is of equal benefit to both. The specialist will find in it many valuable hints and helps, while the general practitioner—especially remote from the cities—will find it of immense value to him in general ophthalmic practice. The arrangement of subjects—aided greatly by many cross references in the index—is such that it is easy to find established prescriptions for given cases. Enough of descriptive text is given to enable the doctor to understand readily the conditions for which he prescribes, although no attempt is made to speak in other than general terms of such subjects as the pathogenesis, symptomatology, pathological anatomy and diagnosis of ocular troubles. Here and there it might have been desirable for the author to have gone somewhat more into detail as to the method of using therapeutic agents. But so much of everyday useful fact and advice are given that the purchaser will feel himself well repaid in getting this book. Questions of operative intervention and of the adjustment of glasses, etc. (except the inclusion of a series of minor operative procedures and manipulations) are not discussed, as such matters when required should be referred to the specialist. The work confines itself to medicinal therapy.

Materia Medica, Pharmacy, Pharmacology and Therapeutics. By W. HALE WHITE, M. D., F. R. C. P., Physician to, and Lecturer on Pharmacology and Therapeutics, at Guy's Hospital, London, etc. *Edited by* REYNOLD W. WILCOX, M. A., M. D., LL. D., Professor of Medicine and Therapeutics New York Post Graduate Medical School, etc. *Fourth American Edition Thoroughly Revised.* Philadelphia: P. Blakiston's Son & Co. 1898. Small 8vo. Pp. 704. Cloth, \$3; leather, \$3.50.

The thorough revision of this book, bringing it up to date, makes it the pithy text-book for student and the ready reference book desired by the practitioner. Drugs are classed according to their therapeutic action, and not arranged simply according to their alphabetical position—an arrangement which can never be commended for text-book. There is a conciseness and clearness about the descriptions of drugs and their therapeutic effects and uses that makes the book easy reading, and thus permits the teachings to be easily remembered. It is in every respect a first rate text book.

Editorial.

Delay in Issue of Last Number

Was due to the almost unprecedented snow storm, sleets, freezes, etc.—so far as this section of country is concerned. Public schools were closed for an entire week on account of the severity of the weather, and business generally was practically suspended for several days.

Dr. Joseph Price, of Philadelphia,

Has had so many good things said of him that it is a wonder he is not vain, but he is not. Dr. James T. Jelks, Editor of *Hot Springs Medical Journal*, on a visit to Philadelphia, says (January No., 1899: "And what of Dr. Joseph Price? All over this broad land, Joe Price is honored for his splendid pelvic and abdominal surgery. He years ago set the pace, and has given up his time to teach the doctors who may be so fortunate as to have the privilege of seeing his work. Freely, he gives it, too; and what a pleasure it is to see him operate! No great lay-out of instruments, paraphernalia, etc. Only six pairs hemostats—a small knife, a pair of scissors, a drainage tube, piece of silk thread, a few silk worm gut sutures, and a kettle of boiling water, and you have his lay-out. Simplicity itself, and what good surgery he is doing! Not only does he do it himself, but all over this country are many men whom he has taught. We heard

one Philadelphia doctor, and a gynecologist, too, say that 'Joe Price had taught them all! This is great praise from a rival in Philadelphia" [but not a word too much—*Editor Va. Med. Semi Monthly.*]

The Tri-State Medical Society of Virginia and the Carolinas.

The subject selected for discussion during the next annual meeting to be held during the fall of 1899, in Charleston, S. C., is *The Southern Negro*—taking up the following points in connection with him:

1. *His Hereditary Tendencies*, as learned from his race history in America and Africa.
2. *His Racial Fecundity*—the influence of climate, city and country life.
3. *His Race Mortality*—in childhood, in adult life, in city and in country.
4. *His Recent Erratic Tendencies*—the cause, and suggestions as to prevention.

A Hospital for Consumptives

Has been established at Rutland, Mass., as a branch of the Massachusetts General Hospital, and is under State control. Admission is secured on payment of a very trifling sum, on recommendation by the Committee on Admissions. The Hospital is constructed after the latest and most approved plans, and has a capacity for about two hundred patients. The *N. E. Medical Monthly*, February, 1899, says it is the first Sanatorium of its kind under State control in this country.

Recent Yellow Fever in the South.

The U. S. Marine Hospital Service reports say that there was a total of 2,272 cases of yellow fever reported during the summer and early fall of 1898 as occurring in the Gulf States; of these, there were 110 deaths. It is to be hoped that even such an epidemic will not repeat itself in this country, as strenuous efforts are to be made to put the West Indian ports in a thoroughly sanitary condition.

Dr. Samuel Wilson Hobson

Has been appointed by the Governor of Virginia to the responsible position of Quarantine Officer for the Port of Newport News, Va. He has been President of the Board of Health of that city, and he enters upon his new duties with knowledge of the responsibilities—having served a term as deputy quarantine officer. He is a member of the Medical Society of Virginia and of his local Society, before which he has read several papers.

Tri-State Medical Association of Mississippi, Arkansas and Tennessee, and Parke, Davis & Co.

During the session of this Association, held in Memphis, December 20-22, 1899, the following preambles and resolution were adopted, which we must believe will meet with the unanimous approval of the better element of the profession:

Whereas, The medical laws of various States have been so perverted by political influences as to give legislative sanction to grotesque, ignorant and dangerous sects of pretenders and charlatans;

And whereas, The privileges granted to one of the most outrageous aberrations—namely, so-called osteopathy—constitute a disgrace to the States in which "osteopaths" are legally entrenched;

And whereas, A certain William Smith, osteopathist, having been roundly denounced, together with his sect, by Parke, Davis & Co., and the *Medical Age*, now brings suit against both for \$25,000 damages;

Therefore, be it declared the sentiment of the *Tri-State Medical Association of Mississippi, Arkansas and Tennessee*, That Parke, Davis & Co. and the *Medical Age*, are entitled to the sympathy of its members and of all medical practitioners; that we wish and expect them to enjoy a complete triumph in repelling this legal assault; and that whosoever a powerful house takes a bold stand in opposition to quackery, it promotes the interests of legitimate and honorable medicine, and the welfare of humanity."

Epidemic Cerebro-Spinal Meningitis

Is prevailing to an alarming extent in Morgantown, Butler Co., Ky., a town of about 1,100 population. Old and young persons alike are dying rapidly. It seems impossible to estimate the mortality. There were not enough coffins in the place on February 7 to bury the dead. Only a few are left able to nurse the ill and helpless. Physicians have been doing heroic work, but seemed powerless to check the disease. Schools have been closed, and the court has been indefinitely postponed. Morgantown is some fifteen miles from a railroad.

Dr. A. M. Phelps, of New York, N. Y.,

Very kindly responded to an invitation to visit Richmond and address the Academy of Medicine and Surgery during the second January meeting, 1899. While the Secretary furnishes this issue with an excellent report of the remarks and discussion, it would be hard to convey in such a report a satisfactory state-

ment of the excellent simplicity and plainness of each of his demonstrations. As a teacher, no one can be more than his equal—very few, indeed, can approach his wonderful power of description and explanation. It was a common regret that he was called back to New York by a telegram before he could hold a promised clinic at the Medical College of Virginia on the day succeeding his lecture before the Academy.

Satirical Leaves from a Physician's Diary.

Dr. Albert Abrams, author of the "Antiseptic Club," has written a series of satirical sketches which abound in rich humor, and are pronounced his best work. They are appearing in the *Medical Fortnightly*.

New York Academy of Medicine Officers.

At a stated meeting Jan. 26, 1899, of the section on Obstetrics and Gynecology, the following officers were elected: Drs. Brooks H. Wells, *Chairman*; A. Ernest Gallant, *Secretary*.

Obituary Record.

Dr. George A. Foote

Died at his home in Warrenton, N. C., last month, at about 65 years of age. He graduated from the Jefferson Medical College in 1856. During the Civil War he served as Surgeon in the Confederate States Army. He took an active part in building up the North Carolina State Medical Society, of which he was President about twenty years ago. He was enthusiastic in his love of his profession, and was always found to be a willing, generous friend to those entering upon the life of the physician. He was, beside being a prominent physician, a most useful citizen.

Dr. Newton G. Tucker,

Born in Williamson county, Tenn., March 29, 1836; died at his home in Nashville, Tenn., January 8th, 1899. In 1870, he was Mayor of Lewisburg, Tenn. After removing to Nashville, in 1875, he was elected a member of the City Council. In 1892, he was elected City Health Officer, which position he filled for six years. For a number of years, he was Professor of Theory and Practice of Medicine in Meharry Medical College. He was a generous, honest and valuable citizen.

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Original Communications.

VOCAL RESONANCE.

By E. M. MAGRUDER, M. D., Charlottesville, Va.

Instructor in Physical Diagnosis, University of Virginia.

In the employment of physical diagnosis in diseases of the chest, it is rare, in the experience of the writer, to find practicing physicians paying any attention to the sounds heard by auscultation over the respiratory apparatus of the patient during the act of speaking.

By neglecting these sounds, our professional brethren deprive themselves of the most delicate and accurate method of recognizing the presence of small or incipient areas of pulmonary solidification. The importance of this is so much impressed upon me, that, were I called upon to state the physical sign upon which I place most reliance in doubtful cases of the above-mentioned trouble, I would unhesitatingly say *vocal resonance*. By means of the study of this sign, I have on more than one occasion detected the positive existence of early and partial solidification of lung tissue in lobar pneumonia and pulmonary tuberculosis, before it was rendered apparent by the presence of increased vocal fremitus on palpation, dullness on percussion, or bronchial breathing on auscultation.

With these remarks on the importance of the subject I will pass on to its study.

Vocal Resonance may be defined as the sound heard over the respiratory apparatus (larynx, trachea, bronchial tubes, and air vesicles) during the act of speaking.

It is obtained by the application of the ear of the examiner over any part of the respiratory apparatus while the patient is made to count slowly, "one," "two," "three," and repeat. It is better to count in a low whisper. When this is done, there will be heard a sound which differs very much according to the part (larynx, trachea, tubes, or vesicles) examined, and according as that part is normal or diseased.

This sound is caused by the action or vibration of the vocal cords assisted by the lips, cheeks, tongue, and palate. It, therefore, has its origin in the larynx, and is conveyed down through the trachea and bronchial tubes to the air vesicles. On reaching the bronchial tubes the sound begins to be divided up and distributed to the tubes as they divide and ramify, the divisions of the sound becoming smaller and smaller until they are finally *diffused, refracted, and scattered* in the air cells.

This diffusion and scattering of the sound waves in the air cells may be likened to the effect produced by dropping a stone into the middle of a pond of water. The little waves produced by the stone become smaller and less distinct the farther they go from the starting point, until they finally become diffused in and blend with the even expanse of water—unless they are suddenly arrested by the close proximity of the shore, in which case they dash against it with force. Hence, the more remote the shore is the weaker will be the force of the waves against it, and *vice versa*. In like manner the larger the air vesicles, the more room there will be for diffusion and scattering of the sound waves, the less will be the force exerted by the sound waves on the chest walls, and the less intense will be the sound, and *vice versa*. The sound on reaching the chest walls in the case of a normal, healthy, lung, has a *certain* intensity, which is normal and *typical*, and with which the examiner should familiarize himself by studying the normal subject.

If the larynx, trachea, or bronchial tubes have their calibre diminished, as by a false membrane (diphtheria), stricture, spasm (asthma), pressure by tumor, swelling of mucous membrane (bronchitis), thick, tenacious mucus (chronic bronchitis), &c., the vocal resonance is *obstructed* on its way, not as much of it reaches the lung tissue, and its intensity is said to be *diminished*.

When the lung contains more air than normal, as when the air cells are overdistended or there is air in the pulmonary interstitial

tissue (emphysema), the tubes remaining normal, the sound is still *more diffused, refracted, and scattered*, and its intensity is *diminished*. The effect on the sound in this case is like that of a stone dropped into the middle of a large pond of water. The waves of sound having far to go strike the chest wall with small force.

In the case, however, of a pulmonary cavity communicating with a bronchial tube, the intensity is *greater* in the sense of volume, although there is more air present, corresponding to the large pond aforesaid. This is due to the cavity admitting a larger volume of sound directly from the tube.

Should the air vesicles be filled up and the lung tissue solidified, as in pneumonia or tuberculosis, the tubes remaining normal, the sound is caught up or received from the bronchial tubes, where it is intense, without being diffused, refracted, or scattered, and is *conducted* directly from the tubes by the solid lung to the chest wall. It is in this case not diffused in the air cells, because they are filled up with solid material (having no air), and act as a good conductor according to the physical law, "Solids conduct sound better than liquids or gasses." We see then that the intensity of the sound as heard over the chest in the case of a solid lung is the intensity of the sound as it is in the tubes, which is greater than that of the air cells, because it has not been diffused, refracted, and scattered. We say, then, that its intensity is *increased*.

If, however, the tubes and vesicles are normal, but something intervenes between the lung and chest wall, as thickened pleura or fluid or air in the chest cavity, so as to *interrupt or intercept* the sound before it reaches the wall of the chest, very little or no sound at all will be heard, and its intensity will be *diminished* or the sound may be *absent* altogether, according to the thickness of the pleura or amount of fluid or air. This intervening substance acts as a blanket thrown over a music box, which diminishes the intensity of the musical sound or obscures it altogether, according to the thickness of the blanket.

Sometimes in chronic pleurisy, strings or bands of adhesion form and extend between the lung and chest wall. These adhesions may *transmit* the vocal resonance from the one to the other, even though there may be something intervening (thick pleura, fluid, or air), just as sound is transmitted by a telephone wire.

We see then that vocal resonance is subjected to different conditions and contingencies in the normal and abnormal subject, thus:

In the normal subject this sound arrives at the chest walls by:

(1) *Convection or carrying* along the tubes, and by—

(2) *Refraction or diffusion* in the air cells.

In the abnormal subject, the sound of the voice may be subjected to—

(1) *Obstruction* in the tubes, as by false membrane, stricture or spasm of tubes, tumor, swollen mucous membrane, tenacious mucus;

(2) *Still greater refraction or diffusion* in the air cells, as in emphysema;

(3) *Conduction* by solidified lung, as in pneumonia and tuberculosis;

(4) *Interruption or interception* between the lung and chest wall, as by thickened pleura or fluid or air in the chest;

(5) *Transmission* by strings of adhesion, as in chronic pleurisy.

"Vocal resonance" is a general term used for the sound heard over the respiratory apparatus during the act of speaking; but of this there are two kinds. It is called—

Voice sound, if only the sound of the voice is heard, without recognition of each articulate word; and,

Speech sound, when articulate speech or each separate word can be recognized or distinguished. This applies only to monosyllables.

It was formerly thought that, if words could be distinguished by auscultating the chest, it always indicated the presence of a pulmonary cavity, and the term *pectoriloquy* was used for this sign and condition. But "it is now known that this sign can be obtained over perfectly healthy chests, especially over those with thin walls and a loud respiratory murmur as among women and children, as well as in diseased conditions."—(Page.) The simple ability to distinguish articulate speech does not then necessarily indicate the presence of a pulmonary cavity.

Vocal resonance, or voice and speech sounds, differs very much, as before said, according as the larynx, trachea or chest (containing tubes and vesicles) are examined, and also according as these organs are in a healthy or diseased condition.

The classification adopted in this paper is that of the late Dr. R. C. M. Page, of New York. This great teacher uses the suffix—*phony*—as the terminal portion of the different varieties of voice sounds, and the suffix—*loquy*—to designate the different kinds of speech sounds. This gives rise to the following classification:

VOCAL RESONANCE includes—

Laryngophony or laryngeal voice, which is the voice sound heard over the larynx;

Laryngiloquy or *laryngeal speech*, which is the articulate speech sound heard over the larynx;

Tracheophony or *tracheal voice*, which is the voice sound heard over the trachea;

Trachiloquy or *tracheal speech*, which is the articulate speech sound heard over the trachea;

Pectorophony or *chest voice*, which is the voice sound heard over the chest;

Pectoriloquy or *chest speech*, which is the articulate speech sound heard over the chest.

The study of laryngophony, laryngiloquy, tracheophony and trachiloquy, is of so little moment that they may be dismissed without further mention than to say that tracheophony and trachiloquy resemble bronchophony and bronchiloquy, except that they are more intense than the latter owing to the larger size of the trachea. This leaves for consideration pectorophony and pectoriloquy (voice and speech sounds respectively), which are the general terms used for the two kinds of vocal resonance heard over the chest proper, both in health and disease.

Pectorophony and pectoriloquy are likewise further divided into different varieties according to the part examined (*i. e.*, bronchial tubes or air vesicles), and the healthy or diseased condition of that part (*i. e.*, according as there is pulmonary solidification, a pulmonary cavity, etc.), thus:

I. PECTOROPHONY includes—

Normal Pectorophony or *normal chest voice*, which is the voice sound heard over the normal air vesicles; also called *Vesicophony* (a better term);

Bronchophony or *bronchial voice*, which is the voice sound heard over bronchial tubes;

Cavernophony or *cavernous voice*, which is the voice sound heard over a pulmonary cavity;

Amphorophony or *amphoric voice*, which is the voice sound heard over an amphoric pulmonary cavity.

II. PECTORILOQUY includes—

Normal pectoriloquy or *normal chest speech*, which is the articulate speech sound heard over normal air vesicles; also called *vesiciloquy*;

Bronchiloquy or *bronchial speech*, which is the articulate speech sound heard over bronchial tubes;

Caverniloquy or *cavernous speech*, which is the articulate speech sound heard over a pulmonary cavity;

Amphoriloquy or *amphoric speech*, which is the

articulate speech sound heard over an amphoric pulmonary cavity.

Now, the different speech sounds are practically due to the same causes and produced under and indicate the same conditions as the corresponding voice sounds, with this difference that it requires thinner chest walls and a louder respiratory murmur to produce articulate speech sounds, which are more distinct. Therefore, Speech Sounds will not be separately discussed, as it would be merely a repetition of what will be said of Voice Sounds.

This leaves us then only *Pectorophony* and its subdivisions for study. All of these sounds must be studied with reference to their duration, intensity, pitch, and quality, as compared with those of normal pectorophony (*vesicophony*). This constitutes the analysis of vocal resonance.

I. NORMAL PECTOROPHONY (*Vesicophony*) or *Normal Chest Voice*.

This is the voice sound or vocal resonance heard over normal, healthy, air vesicles without recognition of each articulate word. It is a distant, diffused, indistinct buzzing, low-pitched sound, caused by the diffusion of the voice sound in the air cells.

It is *typical* in the left subclavicular region in health, as the vocal resonance of this region is taken as the type with which that of the rest of the chest and also of diseased conditions is compared.

Analysis:

Duration: Typical, somewhat long, but varies in different healthy individuals;

Intensity: Typical, somewhat great, but varies in different healthy individuals, according to the character of the voice and condition of the chest walls;

Pitch: Typical, and somewhat low;

Quality: Distant, diffused, indistinct, buzzing.

It is obtained or heard over the greater part of the chest, wherever there is normal healthy, lung tissue; but it is *modified* in different ways, thus:

(1) *By overlying structures*, such as bone, muscle, fat, etc. (the scapula, pectoral muscles, etc.), which even in health render the sound less distinct.

(2) *By other internal organs*, such as the heart, liver, etc., which encroach upon the lung space.

(3) *By the character of the voice*, a loud, low-pitched, harsh voice, other things being equal, yielding more intense pectorophony than a high-pitched, weak voice; for this reason—

In men, normal pectorophony is more intense than in women.

In adults, normal pectorophony is more intense than in children.

In the aged, normal pectorophony is less intense than in the young.

(4) *By the condition of the chest walls*—thin chest walls yield more intense pectorophony than thick.

Significance.—It signifies a normal, healthy condition of the air vesicles or lung tissue.

VARIETIES OF NORMAL PECTOROPHONY.—These are:

(1) Increased pectorophony, (2) Diminished pectorophony, and (3) Absent pectorophony.

(1) Increased, Exaggerated (in intensity), Pectorophony (Megophony) occurs both in health and disease.

In health, it is heard on the right side of the chest, especially in the right subclavicular region, because the right primitive bronchus being the larger, admits a larger volume of voice sound into the right lung than into the left.

In disease, it is heard over partially solidified lung tissue, owing to the better conducting power of the latter.

It is nearer, less diffused, and more distinct and intense (in the sense of concentrated amount) than normal.

Disease.—It occurs in incipient pulmonary tuberculosis (first stage).

(2) Diminished, Weakened (in intensity), Pectorophony (Microphony) occurs both in health and disease.

In health, it is due to overlying structures, such as bone, muscle, fat, etc.

In disease, it is due to—

(a) Some obstruction to the entrance of the voice sound into the lungs, as in—

Affections of the larynx;
Foreign bodies in the air passages;
Pressure by tumors;
Spasm of a bronchial tube;
Stricture of a bronchial tube or trachea;
Thickened mucous membrane;
Mucus, pus, blood, polypi, etc., in the air passages.

(b) Greater capacity of lung tissue to break up, diffuse and scatter the voice sound (increased refractive power of the lung) before it reaches the chest wall, as in over distension of air vesicles or interstitial tissue—*e. g.*, emphysema.

(c) Some mechanical interference with the expansion of the air cells, as in the case of—

Fluid or air in moderate amount in the pleural cavity;

Tumor compressing the lung, etc.

(d) Deficient respiratory action, as in—

General debility;

Impairment of nervous force—*e. g.*, paralysis;

Local pain—*e. g.*, pleurisy, pleurodynia, intercostal neuralgia, broken rib, etc.

(3) Absent Pectorophony. This is due to some obstacle between the lung and chest wall that intercepts the sound entirely—*e. g.*, a very thick pleura, fluid, or air in large amount.

II. BRONCHOPHONY OR BRONCHIAL VOICE.

This is the voice sound or vocal resonance heard over normal, healthy, bronchial tubes, without recognition of each articulate word. It is the sound that is made in the bronchial tubes and that would be heard if the lung tissue could be removed and the bronchial tubes brought in direct contact with the chest walls.

It is obtained or heard both in health and disease:

In health, it occurs in the interscapular region because the primitive bronchi are there, but especially on the left side, as the left primitive bronchus comes nearer the surface behind than the right.

In disease, it occurs over solidified lung tissue, because the sound is conducted directly from the tubes to the chest walls by the solidified lung, and is not diffused and scattered in the air cells, as the latter are filled up with solid material.

It is a near, concentrated, distinct, tubular, and high pitched sound, because it is not diffused, refracted, and scattered in the air cells (they being filled up); but it is conducted directly from the tubes to the chest walls by the solid lung tissue. It is tubular because it is the sound that comes directly from the tubes, and high-pitched because it passes from one medium to a denser medium with shorter vibrations.

Bronchophony resembles tracheophony, but it is less intense; it also sounds like the voice when spoken through a tube.

It is more intense than normal pectorophony in the sense of concentrated amount.

It is modified (in diseases):

(1) By some obstruction in the air passages to the entrance of air, such as laryngeal affections, stricture, mucus, swollen mucous membrane, spasm of a tube, compression by a tumor, etc.;

(2) By thick pleura fluid, or air in the chest cavity, etc.

All these may act by rendering bronchophony distant, or weak, or altogether absent, or suppressed.

ANALYSIS:

Duration, shorter than in normal pectorophony, on account of shorter vibrations, the sound having passed from one medium to a denser;

Intensity, greater than in normal pectorophony in the sense of concentrated amount;

Pitch, higher than in normal pectorophony, because of shorter vibrations;

Quality, tubular (especially when whispered), near, concentrated, and distinct.

Significance: It signifies completely solidified lung tissue, when heard anywhere else than over the interscapular region.

Diseases: It occurs in lobar pneumonia, 2d and 3d stages; pulmonary tuberculosis, 2d stage.

III. CAVERNOPHONY OR CAVERNOUS VOICE.

This is the voice sound or vocal resonance heard over a pulmonary cavity communicating with a bronchial tube and giving cavernous respiration.

It is a blowing, sepulchral sound, that suggests for the patient an early sepulchre or burial; and such is generally the sequel. It is more intense than normal pectorophony in the sense of volume.

ANALYSIS:

Duration, varies with the size of the cavity;

Intensity, greater than in normal pectorophony in the sense of volume;

Pitch, lower than in normal pectorophony, but it varies with the size of the cavity and tension of its walls (the latter depending on the amount of solidified tissue);

Quality, sepulchral and blowing.

Significance: It signifies the presence of a pulmonary cavity communicating with a bronchial tube.

Disease: It occurs in pulmonary tuberculosis, 3d stage.

IV. AMPHOROPHONY (AMPHORIC, OR JUG VOICE).

This is the voice sound or vocal resonance heard over an amphoric pulmonary cavity—i. e., a cavity having hard, smooth, unyielding walls, and communicating by a large mouth with a bronchial tube. It must be empty or contain but little fluid. This kind of cavity imparts to the sound an echo which makes it resemble the sound of the voice in an empty jug. The hard, unyielding character of the walls of this cavity is due to its being surrounded by solid lung tissue.

ANALYSIS:

Duration, *Intensity*, and *Pitch* depend on the size of the cavity and the tension of its walls; *Quality*, amphoric, metallic, ringing.

Significance: It signifies the presence of an amphoric or jug like pulmonary cavity.

Disease: It occurs in pulmonary tuberculosis, 3d stage.

ANTISTREPTOCOCCIC SERUM

In the Treatment of Puerperal Septicæmia, Septic Cellulitis, Post-Operative Sepsis and Erysipelas.*

By WILLIAM L. ROBINSON, M. D., Danville, Va.,

Ex-President Medical Society of Virginia, etc.

In submitting this *Clinical Report of the Use of Anti-Streptococcic Serum in Cases of Puerperal Septicæmia, Septic Cellulitis, Post-Operative Sepsis and Erysipelas*, I do so the more unhesitatingly since I realize the unfavorable conditions which the surgeon has to deal with when called to such cases. I would not detract one jot from the mead of praise due the expert who, in the face of death, snatches the victim from his very jaws, when he does a hysterectomy for puerperal septicæmia, but he must be a bold man indeed who would use the knife before trying other means, and when those have been fairly tested, the poison has too often invaded tissues beyond surgical reach; in fact, so saturated the system that small hope rests even with the skilled surgeon, and none to the inexperienced or non-operative class, that vast army of practitioners who minister to the great majority thus afflicted.

We have the staphylococcus, bacillus communis coli and other germs as causative agents in puerperal septicæmia, but the streptococcus pyogenes in the great majority of cases is the microbe doing the deadly work. Primarily the disease is local, indicating local treatment, but the surrounding tissues and lymphatics soon become involved beyond the uterus and adnexa, then the blood teems with the poisonous microbes, requiring an agent to combat the toxins and stay the organic degenerations. Here the prompt administration of "antistreptococcic serum" seems to meet the indications. No constitutional disturbances follow its use. In commanding doses repeated every eight

*Report for the Southern Surgical and Gynecological Association, session held in Memphis, Tenn., December 6-8, 1898.

twelve or twenty-four hours, as the urgency requires, you may expect decided reduction of temperature, a corresponding improvement in pulse, expression and general condition.

In the failures reported in journals, I think they may fairly be attributed either to the delayed use of the serum, inadequate dose or the existence of other microbes as the causative agent in the case.

I do not wish to undervalue the microscope, but the large majority of practitioners either have no microscope or are unskilled in its use or too remote from an expert to waste valuable time. Of course when available exclude doubt by its use, but use serum first and the microscope later. Nor would I leave undone any of the auxiliaries in the management of these cases—the irrigations of the uterus, search after abrasions and sealing the same. Purgatives, stimulants, normal saline injections and massage, etc., should be intelligently prosecuted.

I will present first the

PUERPERAL CASES.

CASE 1.—Mrs. S., 37 years old, multipara, had an easy delivery, with uneventful history until the 6th day, when she ate very imprudently, got up, had two chills, followed by high fever, was freely purged; irrigated and examined for abrasions; none found; temperature marked 104° F. and kept up for two days; the lochia became fetid, but there was no local tenderness. Insomnia distressing in spite of anodynes. On the third day of fever, 10 c. c. of anti-streptococcic serum "was injected at 8 P. M.; temperature was 100° at 7 A. M., but rose to 103° in afternoon, when 10 c. c. of serum was again injected with prompt abatement of fever, which did not rise above 100.5° again, and rapidly recovered.

CASE 2.—Mrs. N. R., 20 years of age, primipara, excessively fat, delivered with forceps on Nov. 25, 1897. Perineum was lacerated; repaired at once; stitches removed on 7th day; union perfect. On Dec. 13th she was kept awake by constant crying of the baby; had a chill in the night, and when I saw her at noon on the following day, one mammary gland was inflamed greatly. She was freely purged, saline injections, and local application was made to the gland. Fever remained at 104.75°, lochia became fetid on second day of fever. Breast well on 3d, but nothing controlled the fever until on eve of third day, 10 c. c. of anti-streptococcic was injected and by morning temperature was normal, but for three evenings the temperature would go up, but was promptly dissipated in six or eight hours by the serum,

and after fourth injection no rise of temperature recurred. The characteristic breath, rapid pulse, sweating, chilliness, nausea and tympany marked the case as septic.

CASE 3.—E. C. (colored) age 19. Delivery May 30. Chill on June 3d. Lochia muddy and offensive, but profuse. Irrigation twice daily, loose gauze drainage, touched abrasions in cervix with iodine and carbolic acid; used saline solution hypodermically, stimulants, etc., for two days, then administered the serum four days in succession with little improvement until last dose, when symptoms manifested marked change. I never saw such constant chilliness, continued high fever, (105° to 106°), pulse 130 from June 3d until 8th. Septic diarrhæa, constant nausea and insomnia. Recovery slow, but uneventful. I think that sapræmia existed in this case, but am also disposed to think the streptococcic infection prevailed, else the anti-streptococcic serum would not have benefitted the case.

CASE 4.—Mrs. B., daughter of a doctor. Primipara, age 21. Delivered on Aug. 19th. I saw her on 22d. Very large and fleshy, badly lacerated cervix and perineum. Temperature 104, pulse 148, tenderness in pelvis, fetid lochia, etc. Had been purged, besides taken 36 gr. phenacetine, 20 of quinine and 24 of Dovers Powders in twenty-four hours just preceding my arrival. Irrigated, sealed laceration and used saline solution. Sub-mammary. No improvement therefrom by following morning. I obtained consent to use serum, 10 c. c. injected, but with slight effect until second dose. I did not see her again, but sent three more bottles, which were used in four days. The uterus was not irrigated again after my visit, because patient rebelled. Her father wrote: "I shall ever be thankful to you, the serum worked like a charm and saved my child's life."

CASE 5.—Mrs. M., primipara. Age, 23. Weight, 170 lbs. Delivered on September 20th. Badly lacerated perineum; promptly repaired; stitches removed on 6th day; union good; chill on 23rd; temperature 103; pulse 110; headache, nausea, pelvic tenderness, scanty lochia, irrigation thrice daily, drainage, stimulants, submammary saline solution, etc. No abatement; by 25th commenced with serum. In eight hours, temperature was normal. A rise occurred in evening for three days, which was promptly brought to normal by the serum in from six to eight hours. Recovery uneventful.

Dr. J. A. Anderson.—Case No. 1.

6th. Mrs. R. Age 29. Multipara. Confined September 15th. On third day, chill followed

by temperature 105; lochia checked; no odor; tenderness over abdomen. Rapid weak pulse; no appetite; no improvements. In twelve hours, serum was used, with disappearance of all bad symptoms in twelve hours. Recovery uneventful.

Dr. J. A. Anderson.—Case No. 2.

7th. Mrs. B. Age 38. Multipara. Easy confinement June 5th. Nothing unusual until 10th, when she complained of chilliness, headache and weakness. Some tenderness over womb; lochia scant; fetid odor; temperature, 102. Constitutional and local treatment carried out as usual until June 22, when she was prostrated by a chill lasting an hour, followed by rise of temperature to 106½. Unconscious and comatose for several hours. Serum at 4 P. M., which wonderfully improved patient in twelve hours; second dose given in twenty-four hours, and a third later, with rapid recovery. Regarded patient hopeless when first dose of serum was administered.

POST OPERATIVE CASES.

1st. Hattie Loveless (colored) entered hospital with cancer of uterus. Age 40. Operation and healing of abdominal incision uneventful except she had fever preceding operation from septic absorption. Ten days after operation, temperature rose to 103½ every evening, with diarrhoea, nausea and chilliness, sweating, rapid weak pulse. Nothing controlled either diarrhoea or abated the symptoms until after weeks diligent effort. I used 10 c. c. of Anti-S. serum, repeating it in twelve and thirty-six hours. Result—prompt abatement of fever, with return of appetite, subsidence of diarrhoea in four days, and rapid convalescence.

2nd. Mrs. W., age 56. Cancer uteri. Hysterectomy on March 17th. Developed small fistula on 7th day; healed in ten days. Seemed well for two weeks; then complained of constant pain in right lumbar region, with constant fever; rapid weak pulse, nausea, insomnia, chilliness, and diarrhoea. Medicine failed to relieve, and on 7th day of fever gave 10 c. c. Anti-S. serum, with disappearance of fever in twelve hours. Three doses in twenty-four hour intervals secured complete convalescence.

POST-OPERATIVE PERITONITIS.

CASE 2.—Mrs. M. entered hospital June 5th. Pus tubes and ovaries removed on 7th. On 10th, slight rise of fever, which increased daily in spite of saline infusions, sponging, etc., etc. The chilliness, pulse, nausea, insomnia, continued diarrhoea, tympany, etc., for days,

stamped the case as septic. On 15th, injected 10 c. c. of serum, with prompt fall of temperature, and two additional injections in twenty-four and forty-eight hours dissipated the unfavorable symptoms, and rapid convalescence followed.

Dr. Anderson's Case.

CASE 3.—Mrs. W. Age 31. History of former miscarriage and septic fever; lacerated cervix; muco-purulent discharge from uterus. First seen by Dr. A. April 7th. Suffering severe pain in left iliac region, which had been increasing several days. General condition fair; slight fever; tenderness and pain gradually extended over whole abdomen, requiring large opiates to obtain any relief or sleep, until finally breathing was painful, almost unbearable. On the 28th, at suggestion of Dr. W. L. Robinson, the Anti-S. serum was used with the result that pain ceased, temperature subsided, and slept without opiates. Improvement continued for about ten days, when distressing symptoms returned (pain and fever). On 16th and 19th, the serum was injected again with permanent relief. After this, Dr. R. operated for pus tubes, and found adhesion extensive—strong all over intestines. Recovery complete.

SEPTIC CELLULITIS.

CASE 1.—Mr. T. Age 38. Saw him March 2, 1898. Injury of right thumb by rusty nail ten days previously. The whole thumb suppurating and commencing necrosis of first phalanx, free incisions, curetting and antiseptic dressings twice daily failed to control the fever or extension to deeper tissues of hand, the septic fever prostrating him, robbing him of appetite and sleep. April 1st, injected 10 c. c. Anti S. serum with relief of general symptoms and manifest effect locally. In two days, Mr. T. called by drugstore and bought another bottle, saying the first did him so much good he wished more used. I used four more bottles of P., D. & Co.'s make with beautiful results, saving the hand complete except first phalanx. The involvement of deep tissues had extended through the whole palm of hand and half on back of hand.

CASE 2.—W. J. (colored). Age 48. Injured by spur of rooster. Had been under treatment of Dr. W. for six weeks, who had whole hand suppurating; first finger gone. Two bottles of serum stopped the progress, and recovery rapid and complete.

Dr. Pritchett's Case.

Mr. W., age about 40. Seen October 18th,

7:30 P. M. Gun-shot wound of ankle, two weeks standing. Outer malleolus shot away, removed many fragments, opened abscesses fully and treated antiseptically; also tonic suppurating treatment, temperature 105, pulse 130, general condition bad. October 19th, 3 P. M., temperature 103, pulse 120, general condition wretched; injected one bottle of Anti-S. serum, resulting in drop of temperature to 99, pulse 100 in twelve hours. Twenty-four hours later, temperature 100, and so remained for one week; satisfied the disease was extending along tibia, brought patient to hospital where Dr. Robinson operated at knee joint. Osteomyelitis involved both bones up to the joint. For two days all seemed well. Then the soft part of stump became involved, abscessing, and from November 7th to 17th temperature ranged from 99 to 101; pulse 80 to 105, with good appetite, general improvement, then shot up to 104, pulse 125. At 5 P. M. injected serum; twenty-four hours later, temperature 101½; gave another injection which reduced temperature to 99 in twelve hours, and has continued so since.

ERYSIPELAS.

Miss B., age 14. Saw her 9 P. M. February 21st, 1898. Abscess of lower jaw, extending down neck and discharging at two points. Cause, extraction of tooth. Erysipelas had extended half over head, face and nose. Line distinctly marked, shining, red surface; temperature 104½, pulse 140; delirium, constant nausea and diarrhoea. At 9 P. M., injected one bottle Anti-S. serum; at 8 A. M. following day temperature 99½, pulse 120, general condition wonderfully improved. No extension of the swelling. The attack was cut short without further use of serum, and rapidly recovered.

Dr. Pritchett—Case 2.

E. H., child. Seen on October 9th. Erysipelas of right leg and thigh; much swollen, shining red; also had acute nephritis, with marked puffiness of his eye-lids and face, urine loaded with albumen, temperature 103½, pulse 140. Treatment—tonic, stimulants and alkaline diuretics. October 10th, no improvement; with advice of Dr. Robinson used one half bottle Anti-S. serum; next day temperature 100, pulse 120, redness and swelling of limb disappearing rapidly, general condition much improved; used remainder of bottle of serum, brought temperature to normal and rapid recovery.

REMARKS.—You will note this, that, with exception of three cases of the puerperal class, the

attacks come on within three days following delivery. Such a history points strongly to the streptococcus as the cause of the septicæmia. When there is profuse discharge you may suspect sapræmia; still there is often a mixed infection, and you need not hesitate to use the Anti-S. serum for both—the possible benefit and the diagnostic advantage. The results in the puerperal cases are strongly suggestive.

The post-operative are no less striking in their response to the serum.

The septic cellulitis cases, and the gun-shot wound demonstrated the value sufficiently positive to encourage further trial.

The erysipelas cases were too positive to be questioned.

I grant you, gentlemen, from a strict scientific standpoint the report may have little significance to microscopic investigators, but to the great body of busy practitioners whose souls are deeply stirred by these perplexing cases, and who have no microscopical advantages or conveniences, the anti streptococcic serum will be most gladly welcomed.

Touching the doubt of all things, without microscopic proof, I would say, that it appears criminal to bar the profession from the use of a remedy pregnant with such possibilities of relief.

In all save the first case Parke, Davis & Co.'s serum was used.

MEDICAL REVOLUTIONS—OLD THINGS BECOME NEW—AND VICE VERSA.

By WILLIAM S. STOAKLEY, M. D., Millboro Springs, Va.

In accounting for the many revolutions of ideas in the healing art, we acknowledge the wisdom of the Creator in the fact of the instability of material things. We cannot limit or place this wisdom any more than we can trace the many changes in matter.

We find it no less in the veins of gold and silver of the rocks than in the creeping things of life and the microscopic elements of death.

Our predecessors had glimmerings of the lights which now enliven the reasoning faculties, and tempt to such exquisite knowledge of causes and effects, but these latter, according to the "everlasting fitness of things," are always changing, and hence there is no alternative but turns of the medical wheels.

Cæsus said to Cyrus:

"If you were immortal yourself, and commanded an army of immortals, my advice

might be justly thought impertinent; but if you confess yourself a human leader of forces that are human, it becomes you to remember that sublunary events have a circular motion, and that their revolution does not permit the same man always to be fortunate.*

Upon this principle we run our profession.

Yes; we change, but it does not always mean to the absolutely new; rather like the plowman who throws his body backward or forward, according to the changing conditions he encounters; and, to "ease the team," sometimes reverses the plow—(*versa jugo aratra*).

"Tempus erat quo versa jugo referuntur aratra."

"What time the lab'ring hind from toil released,

The plow reversing, yokes it to his beast."

—Old Literature.

The medical field is partly cultivated by a system of reversals—"turning and retracing;" and though we learn how "the land lies," at every "turn," we are finally so mystified by the continual cosmic changes, that we are forced to give up the "ghost" of all *specific* remedies, and sometimes *versa jugo aratra*, by changing treatment or giving nothing.

But, to return to the point in discussion. On the subject of hygiene, and the preservation of the natural aseptic condition, we may go back to the Æthiopians—antedating the Jews—and find that: "*Infantes circumcidunt ob consuetudinem, non ob Judaismum.*" (Gregory.) For health, and not on account of Judaism (religion), children were circumcised.

Again. "The Pontine marshes and those of Spoleto were drained and cultivated by the Romans for the double purpose of health and agricultural prosperity;" and they succeeded in both instances—health was better, and "a purse of gold could be left in the field undisturbed." (Gibbon.)

In the palmy days of the city of Bagdad—the garden of spices, when Mesua, Geber, Razi, Avicenna, and other doctors, "chased butterflies," amidst "Barbaric pearls and gold," and aromatic breezes, the latter making "old ocean smile for many a league," we see something of nature's suggestive hygiene in nitre and the various disinfectant gums, and balsamic mixtures.

We note, too, how they were valued and utilized as such; and the Arabian and Egyptian intuition to preserve the normal aseptic condition as well; in their anxiety to prevent auto-infection by stimulating and clearing the natural effete outlets. "For three days successively in every month they use purges, vomits, and clysters; this they do out of atten-

tion to their health, being persuaded that the diseases of the body are occasioned by the different elements received as food." (*Herodotus*.)

The emphasis being laid upon antiseptics is but an echo from the hill of antiquity—the fountain-head of purifiers, their products being elaborated and refined by our incomparable chemists and pharmacists.

"The preservation of bodies may be accounted for by certain antiseptic qualities in the soil similar to those which, in the abbatial vaults at Toulouse, and in other places, have preserved corpses for many years." (*Old Literature*.)

Some of our chemical "capers," and therapeutic "combination stretchings," are not new. "Substances may occasionally be chemically inconsistent, but medically compatible, and, *vice versa*," says Dr. Paris (*Pharmacologie*). He deprecates "the absurdity of attempting to account for the phenomena of life from principles deduced from the analogies of inert matter;" and pleads for the stomach as a thing of life, with limited accommodation for both food and drugs. "This organ suffers probably from mental impressions more than any other," and not now more than when Shakespeare said:

"Read over this;

And after, this; and then to breakfast
With what appetite you have."

But, to combine remedies "overmuch" is not without risk of startling results, such as happened to the doctor who prescribed *powders* of soda sulphate, and potash carbonate, and received a bottle of *liquid*. A druggist furnishes the converse of this when the syrup of senna was prescribed, and having concreted into a solid, was sent to the patient in a *pill box*.

Would it be far out of the way to say hypnotism dates back to the garden of Eden, when Eve slipped into the wily trap of the initial school of the craft of duplicity; and Adam succumbed to her subtle psychic influence as naturally as seed vegetate in the soil under the influences of heat, light and electricity? Be this as it may, we have the authority of the "father of history," that a woman was cured of dyspepsia through it somewhere about 800 years B. C.

Of course we know that the recent plan of giving small and repeated doses of medicines—so popular and effective—is as old as cooks, at least; who get fat under repeated sippings. Certain drugs enter the circulation as alternatives, or purge, vomit, or sweat, according to the doses given.

The subject of immunity and immunization

* Herot. I. I. Clio P. C. C. VII.

needs no proof that it is a "bottling of the old lightning": "The hair of the dog is good for the bite." Jenner gave us a clear illustration of the fact.

The elaboration of old and crude ideas in this regard has led up to, or down to a knowledge of the subtle primordial atomicity of both health and disease; thus this knowledge is the Alpha, and when coupled with the equally subtle theory of serum therapy, we cannot have other than brilliant views of both the Alpha and Omega of the medical field. Though serum therapy may be yet *sub judice*, at some future day we may unravel some of the intricacies connected with it, and place it in a more satisfactory light than it is at present.

Strange to say, at this particular period of elementary culture of the causes of diseases, and modes of procedure to sustain health, we should be presented with so striking an illustration of the reversal tendencies, as when we tire of the work of vaccination, and *versa jugo aratra*, censuring it as a means of doing more harm than good. Have we any way to account for this opposition to vaccination other than in the failure to use matter, or scab *humanized*, as of old?

Persons were exceedingly particular in using scab to see that it came from healthful individuals. It, in time back, was but rarely followed by onward results, and afforded almost absolute protection. During the late war between the States, as well as since, many had the opportunity to test the matter, and I believe the experience of doctors of that time will coincide with the above statement.

In conclusion; the emphasis given in this paper to antiquated views as having been polished and refined into labor, health, and life-saving means in mechanics, hygiene and surgery, shows that in the late "turn of the medical wheels" this era has reason to be proud of its fortune through our indefatigable workers in elementary matters of both health and disease; especially of the steady and expert hands which guide the surgical knife with such keen knowledge of normal and morbid anatomy. But in these advances let us render to the old "moss backs" that tribute which is but their due; remembering that the "revolving wheels of sublunary events do not permit the same man" nor the same medical practice to be so "fortunate" as to be always in the ascendent.

HEART OF TORTOISE—OBSERVATIONS.*

By B. MERRILL RICKETTS, Ph. B., M. D., Cincinnati, O.

The question arose in the physiology class while a student at the Ohio Wesleyan University in November, 1878, as to the shape of the heart during the ventricular systole—whether that organ was shortened, elongated, or lessened in all diameters.

Also, as to the length of time the heart would pulsate after having been removed from the body.

Accordingly, I instituted an investigation on Friday, Nov. 27, 1878, which resulted in recording the following observations upon a tortoise weighing about three pounds.

Like snakes and lizards, the septum between the ventricles of the tortoise is very imperfect. Fish possess the right auricle and ventricle only (venous heart), while the mollusk has only the left auricle and ventricle (arterial heart).

It is known that the heart's action of a tortoise or shark is continued longer, after having been removed from the body, than any other living creatures, and is for that reason made the subject of investigation.

2:40 P. M. Pulse 28 per minute.

2:45 P. M. Chloroform.

2:48 P. M. Narcosis.

2:50 P. M. Plastron removed, and pulse 34 per minute.

2:50 P. M. to 3 P. M. Steady full pulse beating 30 per min.

The plastron was removed by means of bone saw and forceps.

The thoracic and abdominal organs were exposed and the pericardium opened. The heart was about one inch long and one-half an inch in diameter and similar in shape to that of man.

Its action did not appear to be influenced in any way whatever by the chloroform. With the aid of a lense, the heart's movement could easily be observed through the thin glass containing the water in which the heart was suspended, and which was kept at a temperature of 85 degrees F., by means of a continuous flow through a rubber tube.

3:10 P. M. Pulse 34 per minute; heart removed from body and placed in water 85 degrees F. suspended by a thread tied to the aorta.

3:15 P. M. Pulse 16 per minute while in water.

*This manuscript has been lost for a number of years, and for that reason has not been published.

3:20 P. M. Pulse 40 per minute.
 3:25 P. M. Pulse continued beating 46 per minute.
 3:30 P. M. Pulse 54 per minute.
 3:35 P. M. Pulse 40 per minute.
 3:40 P. M. Pulse 33 per minute.
 3:50 P. M. Pulse 24 per minute.
 3:55 P. M. Pulse 22 per minute.
 4:00 P. M. Pulse 22 per minute.
 4:05 P. M. Pulse 20 per minute.
 4:10 P. M. Pulse 21 per minute.
 4:15 P. M. Pulse 20 per minute.
 4:20 P. M. Pulse 18 per minute.
 4:25 P. M. Pulse 16 per minute.
 4:30 P. M. Pulse 12 per minute.
 4:35 P. M. Pulse 8 per minute.
 4:41 P. M. Pulse ceased beating, one hour and thirty one minutes after having been removed from body.

CONCLUSIONS.

1. That the heart of a tortoise becomes shortened by each ventricular systole (the body and apex approaching each other.)

2. That the ventricles resume their shape at each diastole.

3. That at the close of the systole the heart twists slightly upon its axis, moving from the left and behind toward the front and right, showing more of left ventricle.

4. That the walls are thickened by the contraction of muscular fibre while being diminished in length.

5. That the absence of blood in the ventricle at its systole must necessarily at this time find the heart diminished in all diameters.

advanced in years by such an operation was very great; they were able to lead a much more active life, and the greatest advantage gained from the operation being the relief to the bowels, as constipation is a very marked feature of a large hernia in old men.

Splenectomy for Primary Splenic Anæmia.

Dr. Cushing said that recently two rare cases had been admitted into Dr. Osler's ward. In both, there was a pronounced degree of anæmia; both had a history of attacks of profuse hæmatemesis and a markedly enlarged spleen. The first of these cases was transferred to the surgical side after a diagnosis of gastric ulcer had been made. It was suspected that the hæmorrhage might be associated with his splenic enlargement, and it was determined to remove the patient's spleen should no primary gastric lesion be discovered. Laparotomy was performed through the right rectus muscle, no lesion whatever being found in the stomach, the spleen was fairly free from adhesions. A long oblique incision was made, and an effort to free the spleen met with serious bleeding. The splenic artery and vein were isolated and divided between two ligatures, and the organ was freely delivered from its bed. The patient made a good recovery; he has gained thirty pounds in weight and had no further hæmorrhages.

Case of Jejunal Fistula.

This case was one with a good many points of physiological interest. The patient was admitted to the hospital several months ago greatly emaciated, weighing but ninety-three pounds. In the median line was a fistula which constantly discharged an irritating fluid, which had produced an acute dermatitis, extending from the costal margin almost to his knees. The patient's mental condition, due possibly to the state of chronic starvation, was unbalanced, and he had several epileptiform convulsions during his first days in the hospital, and he gave a history of similar attacks during the past few years. The fistula was said to be the result of a razor cut across the abdomen received ten years previously, which had completely severed the intestine in one place and had opened it in two others. He was placed in a continuous bath and was fed with nutritive enemata—attempts to feed through the fistula being unsuccessful. The condition of the skin under the bath improved rapidly, and he began to gain in weight under rectal feeding. Several months later he was operated upon. The fistula was closed by a resection of the bowel and end to end suture, and the pa-

Proceedings of Societies, etc.

THE JOHNS HOPKINS MEDICAL SOCIETY.

Meeting held Monday, February, 20, 1899.

[Report furnished by the *Maryland Medical Journal*.]

Radical Cure of Hernia Under Cocaine Anæsthesia.

Dr. Cushing said that out of perhaps 125 hernias operated upon during the past fifteen months, seventeen had been done by means of local anæsthesia. Where a general anæsthetic could be safely administered for various reasons, it was easier for both patient and operator.

The patient exhibited was a type of the case in which a local anæsthetic had been used. He was a man seventy-four years of age and had had an uncontrollable double hernia of large size for years. The use the relief afforded men

tient has made an uneventful recovery. His weight, 180 pounds, is now almost double that at entrance.

Dr. Cushing said that the fistula was evidently high up, as was evinced by the irritation produced upon the skin by the discharge. Attempts had been made to find the exact situation of this fistula, one being suggested by the accidental discovery that oysters would be discharged from the fistula a few hours after ingestion practically unchanged. A piece of silk was tied around one of these before it was swallowed, and three hours later the oyster appeared at the fistula with just three feet and eleven inches of string from the patient's teeth to the fistula. Peristalsis was so strong and tugged at the string so vigorously, that the patient had tied it to a pencil which he carried between his teeth to prevent its disappearance. This measurement showed the fistula to be high in the jejunum, possibly a foot below the duodenum. Examination of the stomach showed that there was no dilatation, despite the extraordinary amount of food, solid and liquid, which the patient took at frequent intervals.

Dr. Cullen asked Dr. Cushing the routine method and the steps he pursued in the removal of the spleen, and why it is that patients, in so many cases, die within a few hours of hæmorrhage after removing the spleen.

Dr. Cushing: It was impossible to remove this spleen as ordinarily advocated. It could not have been delivered through the wound, because the adhesions to the diaphragm were too dense. The vessels were ligated before the spleen was removed. There was a good deal of hæmorrhage. These cases are predisposed to hæmorrhage, but whether the anæmia favors hæmorrhage I cannot tell. The cases that have been operated upon for pure leukæmia have all terminated fatally from hæmorrhage; the other kinds are less apt to do so. This is the only case of the kind that I know of.

Further Uses of the Ureteral Catheter.

Dr. Kelly said that it seemed some few months ago that certain discoveries would limit very much the use of the renal and ureteral catheter. It was found to be possible to separate the urines and retain them separated in the bladder until discharged from that organ by tubes. This was done by means of an instrument which consisted of a tube with a solid septum running down the centre and projecting beyond the end of the glass tube, so that urine running down from one ureter remained on its own side of the septum, while that from

the other ureter was confined to the opposite side. This method was published in the *Deutsche Medicinische Wochenschrift*, October, 1898, and not long after, Dr. Harris, of Chicago, was able, by the use of an instrument, to form two little pockets in the bladder for the accumulation of the urines from each side, which could then be drawn off by a suitable catheter. At first, it looked as if these methods might limit very much the further use of the high catheter, but a new and very important use for them has developed.

In a certain number of cases, we have to deal with vague but depressing pains in the side, particularly the right, and one is long in doubt as to whether they are renal, hepatic or intestinal in character, or whether they are really hysterical. He has been able to include or exclude the kidney as a causative factor by the use of the catheter. When the ureteral catheter presses upon the pelvis of the kidney, the patient will sometimes say that that is the very point where she had the pain. Further than that, he has been able to produce an attack of artificial renal colic by injecting a solution of boracic acid into the kidney through the catheter.

Dr. Kelly then referred to a recent case which illustrates well the value of the catheter. The condition was so like a floating kidney, that he unhesitatingly made that diagnosis, but passed in a catheter first and produced an attack of colic, which the patient did not locate in the lump which was felt in front, but insisted that it was in the back. At the operation, he found an enlarged gall bladder in front of the kidney, which was in its normal position, so that the location of the pain by the patient outside of the kidney when artificial colic was produced was correct.

Dr. Welch asked Dr. Kelly whether he has ever observed that infection had been carried from the bladder into the kidney as the result of catheterization.

Dr. Kelly has never seen an infection introduced from the lower into the higher urinal tract by catheterization of the ureters.

Thrombosis of Veins of the Neck and Arm in a Case of Cardiac Disease.

Dr. Welch: The patient was a young colored woman, seventeen years of age, admitted to the hospital November 26, 1898, and died January 16, 1899. She gave a history of acute articular rheumatism, followed by a cardiac affection, which, during life, was recognized as affecting both the mitral and aortic valves. There was displacement of the apex beat, great increase in the area of cardiac dullness and accentua-

tion of the second pulmonary sound. There was marked pulsation over the heart, and especially in the neck and over the upper part of the clavicle and sternum. She had the usual signs of insufficiency, and at the autopsy the following condition was found: There was very great hypertrophy and dilatation of the heart, especially of the left side; the aortic valve was thickened and retracted; the mitral valve was likewise thickened and its orifice much widened. There were the usual signs of passive congestion of the viscera. There was cedema of the lower extremities and some increase of serum in the serous cavities. The point of special interest was the thrombosis. Before the body was opened, there was noticed an oedematous swelling of the left arm, chiefly in the neighborhood of the elbow. This swelling had been noticed during the last day or two of life. The left innominate, left jugular, external and internal, and left axillary veins, were all involved. It was a mixed thrombosis.

Dr. Welch stated that the main points of interest in the case were: (1), the association of peripheral thrombosis with heart disease; (2), the location of the thrombosis in the veins of the upper extremities; and (3), the causation of the thrombosis. A careful bacteriological examination was made of the thrombosis, and a pure culture of the streptococcus pyogenes was obtained.

Dr. Fletcher said this was one of the most interesting heart cases seen in the hospital for a long time. The patient came in with very marked dyspnea and some oedema. On examination of the heart, the condition of cardiac dullness was found to extend far out into the sixth interspace. There was very marked precordial bulging, with at times a diastolic retraction. There was a very marked dynamic pulsation of the vessels of the neck and a typical Corrigan's pulse. There was definite evidence of aortic insufficiency and possibly a so of a lesion of the mitral valve. Broadbent's sign in the back was very distinct, and that, in connection with the other symptoms, made it very probable that there was also an adherent pericarditis. The evidences of thrombosis of the veins in the arm and neck appeared about two days before death.

Carcinoma of the Ovaries.

Dr. Cullen exhibited two large ovarian tumors, which examination had shown to be carcinomatous. The patient had been in a poor condition before the operation, her pulse being 140 and temperature 103°, but immediately after the operation she seemed very much

improved. On the eighth day, however, she complained of sudden pain in the left shoulder, and within a few minutes the veins of the arm showed the presence of a thrombus. It was feared that gangrene and sloughing of the arm might follow, as it was swollen to four times the size of the other arm. She greatly improved, however, and is now about to leave the hospital.

Fecal Concretion.

Dr. Cullen said that this patient had no movement of the bowels for nine days, and at the end of that time was vomiting fecal matter. At the operation the small intestine was found much distended, and down in the pelvis was found a hard nodule, which, on elevating the intestine, proved to be a concretion within its lumen. It was situated about the middle of the small intestine, and had completely blocked its lumen, so that gangrene was commencing. The patient died within twenty-four hours.

MEDICAL SOCIETY OF THE UNIVERSITY OF MARYLAND.

[Reported by the Maryland Medical Journal.]

Tuesday, February 21, 1899. President, John S. Fulton.

Clinical Case—Diagnosis.

Dr. Blackburn: Man, forty-three, with no history of any nervous disease in family; no remembrance of disease of childhood, nor of being sick in bed until twenty-five years old, when he had malaria; never been sick since. About 1st of last August patient noticed that his fingers on each hand became numb and stiff; gradually his entire hand became stiff; then had a feeling as though pins and needles were sticking in his feet, and by degrees he became unable to tell where his feet were unless he could watch them. Feet became numb, and felt as though drawn toward the instep. This feeling extended toward the thighs, where he now has the sensation of being pricked with pins and needles. For the past week or ten days he has had a twitching of the legs, and has had shooting pains in lower part of abdomen. For the past three or four weeks he has felt as though something were tied around abdomen. Sensation is less acute than normal, and, although sometimes delayed, is usually transmitted normally. The impairment of sensation is more marked in the hands, ankles and in a zone around the body just above the umbilicus. There is loss of power in the hands and wrists and a decided

tendency towards spastic contraction of the fingers and toes—more marked on the right side. Otherwise the strength of the patient seemed unimpaired. The skin reflexes were rather feeble, the deep reflexes exaggerated, with slight exaggeration of the knee-jerk and a tendency towards ankle-clonus in each ankle. There was marked loss of co-ordination, involving the upper as well as the lower extremities, the inco-ordination being much more marked when the eyes were closed. The pupils react both to light and accommodation, and there were no retinal changes. Patient has never had any disorders of vision, no paralysis of the ocular muscles and no double vision. He has some difficulty in micturition, which is only momentary, however; is constipated, but has complete control over the sphincter muscles. The muscles of the hands react sluggishly to the Faradic current.

Dr. Robert Reuling said there were some points of especial interest in the case. First, it did not correspond to the ordinary cases of spastic paraplegia; also that it might be a case of amyotrophic lateral sclerosis, in which the spastic condition often shows itself in the lower extremities first and the muscular changes come on later. The disease is a progressive one, and the process, as a rule, extends downwards and upwards in the cord, so that later symptoms of the affection of the middle come on.

Dr. Robins said there were some very striking points about the case rather suggestive of *tabes dorsalis*; for instance, the inco-ordination was extremely marked in this case, and there was also a slight area of anesthesia. While some of the symptoms were against *tabes dorsalis*, others were for it, and a diagnosis of lateral trouble should be made with a certain amount of hesitation.

Dr. Reuling could not see any of the cardinal symptoms of *tabes dorsalis*, as the whole appearance of the case positively excluded *tabes dorsalis* as he knows the disease.

Appendicitis, with Specimens.

Dr. Wm. R. Stokes made a few remarks concerning the bacteriology of appendicitis, saying that it simplifies matters considerably to bear in mind that the vast majority of appendicitis are caused by the presence of some variety of the pus organism, and it was well to include under this the *bacillus coli communis*. As is well known, the *bacillus coli communis* is a normal inhabitant of the intestinal canal, and under normal conditions is harmless, but if, for some reason or other, the mucous mem-

brane of the appendix becomes irritated, the colon bacillus is there and sets up an inflammation of the mucous membrane. In a number of cases there is simply a gangrenous condition of the appendix; the blood supply will cease, offering the bacteria an excellent opportunity to penetrate through the gangrenous appendix. Even so harmless an organism as the *bacillus coli communis* is able to penetrate and get into the peritoneal cavity, and there is little doubt that this organism can set up irritation and produce peritonitis. We, of course, have appendicitis from rupture of the appendix, the most frequent cause of actual rupture being either an ulcer from tuberculosis or typhoid fever.

Dr. Tiffany exhibited seventeen specimens of appendices removed by operation for inflammation, four of them being perforations. In a certain number of cases the appendix is often represented by an entirely black mass. In one case the inflammation and ulceration in the bowel had caused obliteration of the vessel, and the part of the appendix distal to the ulcer was black. This he had the opportunity of seeing two or three times, and in all cases where the appendix was black and gangrenous he found obliteration of the nourishing vessel, so that gangrenous appendix is probably the result, in many cases, of appendicular ulcer.

Among questions that naturally suggest themselves regarding this subject comes the one, "How is it that appendicitis is at the present day such an extremely prominent subject, and yet several years ago it was very rarely heard of?" There are probably two causes: One, that they did not have appendicitis in times gone by; the other, that the physician failed to recognize it. During three years of his student life, out of about 350 post-mortems he saw but one of appendicular disease. The most successful of all operations are those done between attacks; the next most successful are those done both after and before the peritoneal coat is involved.

Dr. Randolph Winslow thought the sooner a case of appendicitis was operated upon the better for the individual, and he would always advise an operation. When removed in a clean peritoneum the dangers are practically nothing; when removed after the peritoneum has been involved, but an abscess has not formed, the dangers are still slight; where the operation is not performed until after the peritoneum is damaged, the danger is greater and the operation more difficult.

Dr. Atkinson said that there is no disease that so often misleads the physician and surgeon as

appendicitis, so far as diagnosis is concerned. Ordinary typical cases of appendicitis could readily be recognized from the swelling in the lower abdomen, the pulse and temperature; but not so with the cases where all the symptoms are obscure, where there is probably but little pain in the abdomen, the pulse good and no swelling at all, and it is in just these cases where the diagnosis is often of so much importance. In many instances a great deal can be discovered by careful examination of the blood and the careful counting of the leucocytes. In almost all inflammatory troubles there is an increase of leucocytes per cubic millimeter.

Dr. Ruling, in referring to a *Case of Infantile Paralysis, with Exhibition of Brain and Cord*, reported by Dr. L. M. Allen, with pathological report by Dr. Latané, said the important features were the muscular atrophy and the shortening in the bones, which is especially characteristic of these cases of infantile paralysis.

BALTIMORE MEDICAL AND SURGICAL ASSOCIATION.

Meeting held February 27, 1899.

President, Dr. C. Urban Smith.

Convergent Strabismus.

Dr. Samuel Theobald said the two prominent causes of convergent strabismus are the paralytic process of the external rectus and the so-called concomitant squint. The usual form of convergent squint is that which is always in one eye; but, fortunately for the individual, we sometimes find an alternating squint, indicating that the eyes squint alternately. It is often very difficult to detect the presence of a squint, and one must rely upon another test than the judgment—the simple color test being almost always trustworthy. Often, eyes appear to have a convergent squint when there is nothing of the kind present.

Different views are held as to the origin of amblyopia in connection with squints—whether it is a consequence of the squint, whether it antedates it, or whether it is the cause of the squint. Some maintain that it is a congenital defect. His own views are that amblyopia is not the cause of the squint, but a consequence of it. If the amblyopia is a consequence of the squint, it is apt to become more and more prominent, and it is a very important matter to deal as early as possible with the squint, in order to prevent the further development of the amblyopia.

As to the treatment of squints, they can be

dealt with in two ways—one by glasses and one by operation in combination with glasses. In almost all of these cases, operative treatment is what one must resort to. Some surgeons have advised advancement of the muscle, but it is generally believed that tenotomy is the safer and more exact way of dealing with these cases. It is much more difficult to determine what is to be the result of the advancement of a muscle than of a tenotomy. The operation for squint is practically free from danger, done under cocaine, and almost painless. He does not hesitate to operate just as soon as he sees a case of convergent squint, even in comparatively young children, although this view is not held by a great many ophthalmologists.

Dr. A. K. Bond felt very much indebted to Dr. Theobald for what he had said. He had a little child referred to him quite recently for squint, and he advised the parents not to have any operation performed until the child was considerably older, but he believed, from what Dr. Theobald had said, it was an unwise plan.

Dr. Bernstein did not think Dr. Bond need feel that he had given unwise advice, as a great many surgeons hold to the opinion that it is unwise to operate upon a child unless under exceptional circumstances. When the squint is very marked, they do operate occasionally, but, as a rule, they do not operate upon concomitant squint until over ten years of age, and attempt to cure or treat the squint in the meantime by the correction of the hypermetropia. He knew of instances where patients had been spared an operation altogether by this treatment.

Dr. McConachie thought most ophthalmologists would agree with what Dr. Theobald had said with regard to the origin of convergent squint; his own observations had led him to believe as Dr. Theobald does, that amblyopia follows the squint, and is not antecedent. As to the treatment, too, he thought nearly all would agree with Dr. Theobald, that it is best to deal as early as possible with the squint in order to prevent the advancement of the amblyopia.

Dr. Harlan thought the cases would simply vary, and the treatment must vary, and that, in his opinion, there is no one theory that we can fit all cases of squint to.

Extra-Uterine Pregnancy in Patient with Two Uteri—Laparotomy—Recovery.

Dr. John D. Blake said the case he wished to relate was one particularly interesting. The patient was about thirty-three years of age,

approaching pregnancy, within a few days of the tenth month. At the suggestion of the patient's physician, Dr. Blake made an examination with a view to extra-uterine pregnancy. Upon vaginal examination he found the os about the normal size of a multipara, somewhat softer; it was somewhat patulous, so much so that the finger could be made to enter. At the time of operation he found that the finger could easily be passed into the uterus and that the uterus was entirely empty. He then made an incision in the abdominal wall, exposing an immense tumor; passing his hand well up under the rib he lifted out the entire mass, the tumor containing the child. This tumor showed that it was muscular in character, while its walls were extremely thin, and it seemed that it had started off at right angles with the uterus. He immediately excised this muscular sac, and passing his hand through the membrane lifted out a child weighing ten and one-half pounds, afterwards removing the entire sac. This sac was muscular in character, and as the child was removed it feebly contracted down to probably one-fourth its size. The child lived about fourteen days, when it developed some pulmonary trouble and died. The mother continued to improve—the most peculiar development in connection with the case being noticed the day before the patient was permitted to leave the hospital.

Upon examination he discovered in the vaginal margin a small opening which ran back into the posterior portion of the canal. Examining further, he found a small os, about the size of an os of a girl ten or twelve years of age. Dr. Blake said it was evident to him that he was dealing in this case with a double uterus, and the fact of having had to deal with that showed that this was a very diminutive uterus, with an exceedingly long neck, and one with extremely thin walls. He had seen a number of pregnant uteri and observed their thicknesses, and this one he supposed to be about one-third the normal thickness. The patient is doing well now, has recovered her strength, and says she does not feel any worse. Dr. Blake says he is quite positive she would never have been able to give natural birth to this child without operative measures.

Cholecystotomy—Gall-Bladder Closed.

Dr. Blake then referred to two cases of gall-stone, for which he had done the typical cholecystotomy. In one case he removed twenty-four and in the other seven stones. In doing the typical operation the danger in sewing up the gall-bladder is that there may not be drain-

age from the gall-bladder into the bowel, and that there may be an accumulation of fluid in the gall-bladder, causing overdilatation of its walls. Of the number of gall-stone cases he has operated upon these are the only two in which he has closed up the gall-bladder entirely.

Dr. Sellman asked if the uterine appendices were attached to the tumor which he removed in the first case.

Dr. Blake replied that he removed one of the ovaries with the tumor.

Dr. Chambers thought the case remarkably successful surgically.

Analyses, Selections, etc.

Old Dislocations of the Elbow.

Dislocations nowhere become inveterate and irreducible sooner than at the elbow. This is especially true in the young, where the developmental osteogenetic power of the periosteum is in full play, and where, consequently, the slightest injury or chronic irritation of the periosteum causes new bone formation, the presence of which precludes the possibility of the joint surfaces reassuming their old relations. The soft parts, too, in growing individuals are much more easily modified in their development by irritative factors than later in life, so that hindrance to the reduction of a dislocation soon supervenes in the course of a case from faulty evolution of the involved soft tissues. Finally, the ultimate bone relations in joints and the nice correspondence of apposing surfaces are the result of pressure and counterpressure of the parts upon each other during growth, and this being absent, the deformity of the bony parts of the joints necessarily follows.

The importance of the movements of the elbow-joint is very great, and, besides, from an æsthetic standpoint, freedom of motion here is very desirable, since limitation of it always causes a striking peculiarity in the holding of the limb and awkwardness in the movement of it that are very noticeable. As stated before, reduction even by force soon becomes impossible. The necessity for early diagnosis and prompt reduction is greatly emphasized. Where inveteracy is once established, if the deformity is considerable, arthrotomy is indicated. The results of operative intervention have frequently in the past, however, been extremely unsatisfactory, and for two reasons: either too little of

the abnormal structures that caused persistence of the dislocation were removed, in which case inevitably it recurred (often under the operation bandage); or too much of the bony structure was removed, an excision of the elbow being practically done, when a flail joint resulted—an eminently undesirable result.

Prof. Stimson, in his new book on "*Fractures and Dislocations*,"* treats the subject with his well-known practical conservatism. He gives a sketch of new formation of bone on an old, unreduced dislocation of the elbow, (Figure 1)



Fig. 1.—New formation of bone on old, unreduced dislocation.

as he has seen it in a number of cases. He advises operation for the condition by a long incision on the outer side, exposing the radius and the mass of new bone. This should be freely chiselled away and the capitellum exposed by free division of the soft parts, keeping the knife at a little distance from the bone, so as not to damage the periosteum. The sigmoid fossa is then cleared of fibrous tissues. A second incision is now made on the inner side, curving close behind the epitrochlea or its site; the ulnar nerve is drawn forward, and the olecranon freed. If the epitrochlea has been broken off and displaced upward and backward it must be detached from the humerus, preserving its relations with the lateral ligament. The clearing of the sigmoid

* A Treatise on Fractures and Dislocations, by Lewis A. Stimson, B. A., M. D., Professor of Surgery in Cornell University Medical College, New York. Lea Brothers & Co. Just issued.

cavity is then completed. The only obstacle to reduction, then, if there be one, will be the shortening of the flexor muscles of the hand, induced by their action in the abnormal position caused by the dislocation. If necessary, they must be partly divided close to the humerus. Professor Stimson gives two pictures of one of his results, showing the elbow in flexion (Figure 2), and in extension (Figure 3),



Fig. 2.—Result of operative reduction of old dislocations.

which we produce. Altogether, he has operated upon some ten cases by this method, and the results have all been flexion within a right angle and extension varying from 120 to 170 degrees, with preservation of rotation.



Fig. 3.—Result of operative reduction of old dislocations.

Ungt. Betulæ Comp.

In these days, when quick results measure the standard of energy and application, it is a pleasure to record the success of this valued preparation, largely used by the medical profession, which has attained to its honorable position, not by any persistent appeals to credulity or by suggestions of empirical methods, but by the straightforward way of ethical ad-

dress to physicians, through the pages of the medical press and by correct and scientific literature. Ungt. Betulæ Comp., made by The Kahn-Miller Drug Co., Baltimore, Md., is now largely prescribed by the medical profession throughout the country. We understand that the use of the preparation gives unqualified satisfaction, and has proved of exceeding value in a very large class of skin diseases. Send for free sample and literature.

Program of the Next Meeting of the American Medical Association Being Outlined.

At the June meeting of the American Medical Association, in addition to the regular programs, the Section on Ophthalmology and that on Laryngology and Otology will devote the morning of the second day, June 7th, to a joint meeting, under the chairmanship of Dr. Casey A. Wood, of Chicago, and of Dr. Emil Mayer, of New York. The subject for discussion will be "The Relation of Ocular Diseases to Affections of the Nose and Neighboring Cavities." Four papers are to be read on this subject, *by invitation*, as follows: Dr. Chas. Stedman Bull, of New York, on "Some Points in the Symptomatology, Pathology, and Treatment of the Sinuses Adjacent and Accessory to the Orbit;" Dr. D. Bryson Delavan, of New York, on "Nasal Stenoses in Their Relation to Ocular Disturbances;" Dr. Joseph A. White, of Richmond, Va., on "Eye Troubles Attributable to Nasopharyngeal and Aural Disturbances," and Dr. J. H. Bryan, of Washington, D. C., on "Diseases of the Accessory Sinuses in their Relation to Diseases of the Eye." There will be a general discussion on the main question.—*Medical News*, Feb. 18.

Points in the Arsenical Caustic Treatment of Cutaneous Cancers.

Dr Wm. S. Gottheil, New York, N. Y., in a recent article on the subject named in the title, brings out the following "points," which he allows us to use:

1. The arsenious acid caustic treatment of skin cancers does not contemplate or depend upon the actual destruction of the new growth by the caustic.

2. The method is based upon the fact that newly formed tissue of all kinds has less resisting power than the normal structure when exposed to an irritation and its consequent inflammation. Hence the former breaks down under an "insult," which the latter successfully resists.

3. If, therefore, the whole affected area can be subjected to the influence of an irritant of just sufficient strength to cause a reactive inflammation intense enough to destroy the vitality of the new cells, the older normal cells will survive.

4. Arsenious acid of properly mitigated strength is such an agent, and its application causes an inflammation of the required intensity.

5. It therefore exercises a selective influence upon the tissues to which it is applied, and causes the death of the cancer cells in localities

outside the apparent limits of the new growth, where there is as yet no evidence of disease.

6. It is superior, in suitable cases, to any method, knife or cautery, which requires the exercise of the surgeon's judgment as to the extent to which it is to be carried. That that judgment is often wrong, and necessarily so, is shown by the frequency of recurrence under these methods even in the best hands.

7. It is applicable to all cutaneous carcinomata in which the deeper structures are not involved, and which do not extend far on to the mucous membranes.

8. It is easy of application; it is safe; it is only moderately painful; and its results compare favorably with those obtained with other methods.

Treatment of Hypertrichosis.

There are few chronic diseases that give rise to more real discomfort than this cosmetic defect. Numbers of doctors have almost piteously appeals from female patients on whom the development of a hirsute facial appendage is a source of as much worry as it would be of joy to their young male relatives. So many different methods have been employed for its removal in the past, and so many exaggerated claims made for each new method, and yet recurrence has been the rule, that the ordinary general practitioner is apt to doubt that there is really any effective lasting method of depilation, and so advises his patients against attempts at relief.

The electrolytic method of removing the superfluous hairs of trichiasis—the invention and practical development of which, by the way, we owe entirely to Americans—has been now before the profession nearly a quarter of a century. It has been generally adopted in Europe, and, especially in Paris, is used extensively and with the best satisfaction. "The question is often asked," says Dr. Jackson, in his *Manual of Skin Diseases*, "is the removal of the hair by this method permanent?" This question may be answered: "It is without a shadow of a doubt." The answer has the advantage of being definitely decisive—something that is not always characteristic of therapeutic suggestions, especially in skin diseases. With the refinements in the use of the electrolytic needle that twenty five years of practical experience with it have given, the depilation is now almost invariably successful from the beginning, and a new growth of hair afterwards is an anomalous irritative hyperplasia which is extremely rare, or a sign of failure to destroy the hair bulbs completely at first. The danger of scarring is also reduced to a minimum, and

with reasonable care the cicatrization will never be more than the minutest points on the skin, and seldom will be noticeable at all. There would really seem to be very little reason any more for sensitive people to suffer the discomfort they usually do because of the persistent presence of this undesirable hirsute adornment.

We base the above note on a section from advance sheets of the third edition of "*Jackson on Diseases of the Skin*," Lea Brothers & Co., Publishers, Philadelphia, Pa., which will be ready for issue in about two weeks.

Urinary Incontinence Treated by Tightening the Sphincter Vesicae.

Dr. A. LaPlante Smith read the following report before the Montreal Medico-Chirurgical Society (*Montreal Med. Jour.*, February, 1899): During the last twenty-four years, I have been consulted by a number of women for incontinence of urine following a very severe labor. A few of these were found, on close examination, to have vesico-uterine or a vesico-vaginal fistulae, which were dealt with in the usual way and cured by operation. Nearly all the others were treated for two or three months with a mixture of iron, strychnine, and phosphoric acid, in full doses, and were also cured: the cause in their cases being weakness of bruised and overstretched muscular fibre.

But about six months ago, the present case came under my care at the Montreal Dispensary, and proved an exception to the rule of my experience. Mrs. M., age 40, had a very severe instrumental labor about a year ago, ever since which time she has had to wear large pads to catch her urine. Her physician was unable to stop it in any way. If she remained in bed, she could hold water for an hour or two, and then it would trickle out if she moved or took a long breath, and when she went about her work it kept running all the time, keeping her clothes wet, and always smelling of urine. I put her on the above tonic treatment, and, in order to observe her better, took her into the Samaritan Hospital for a couple of weeks. A careful examination failed to detect any fistula; in fact, in filling her bladder with warm salt solution, the latter flowed out, beside the catheter; there seemed to be no life in the sphincter. There was a large rectocele and cystocele and lacerated perineum. Although I have seen a great many patients with this condition, and quite commonly causing desire to micturate frequently, and also a sensation as though some urine still remained in the bladder, as indeed it does, yet

I do not remember to have had a case in which it caused incontinence. I therefore feared that the cure of these conditions alone might not suffice to cure her of her trouble, and I had some intention of, at the same time, shortening or taking a reef, so to speak, in the relaxed sphincter. This I found was quite easy to do, when I had removed the vaginal mucous membrane to the extent of two and a half inches in length, and an inch and a half in breadth. In order to tighten up the sphincter, I made the denudation further down towards the meatus than usual, and instead of drawing the edges surrounding the denuded area with a purse string suture, as I usually do, I tightened up the sphincter by means of a running catgut suture which was buried in the muscular layer of the bladder right down to the urethra. The vaginal mucous membrane was then accurately brought together over this. Hegar's operation on the posterior vaginal wall was then done, with a buried and a superficial row of catgut. This made a good support for the bladder. Fortunately the catgut was good, and her tissues healthy, so that in both primary union was obtained. The result was all that could be desired. She could cough and turn in bed from the first day without wetting herself, and at the end of two weeks she could walk about with comfort, and without a single drop of urine passing involuntarily.

Hæmorrhage as a Sign of Congenital Syphilis.

In the course of the description of a case of hæmorrhagic, congenital syphilis appearing as a hæmorrhagic vesicular eruption, Dr. William S. Gottheil, of New York city, calls attention (*Archives of Pediatrics*, June, 1898,) to the importance of otherwise unexplainable bleedings in infants as symptoms of congenital lues. They may be the only mark of the disease, especially at first; but they are almost invariably accompanied by a diminution of the coagulability of the blood similar to that of hæmophilia, and the case usually goes on rapidly to a fatal termination. Disease of the vascular walls is one of the commonest and best known effects of the syphilitic poison, leading to hæmorrhagic discharges from the mouth, the bowels, the bladder, or the nose; to blood accumulations under the skin and mucosæ, or in the serous cavities and internal organs; or, finally, making the syphilitic eruption itself hæmorrhagic. The author emphasises the importance of remembering these facts in the treatment of infants who have hæmorrhagic discharges, or a hæmorrhagic eruption, the cause of which is obscure.

Case of Ruptured Spleen—Operation—Recovery.

Dr. W. P. Carr, Washington, D. C., reported (*Nat. Med. Rev.*, February, 1899,) the following to the Medical Society of the District of Columbia:

Fred Acton, a white boy, 10 years old, was brought to the Emergency Hospital about 8 P. M., October 11th, 1898, four hours after having been kicked in the left side by a mule.

He gave a history of chronic malaria, but showed no marked signs of the cachexia. He complained of pain in the hypochondriac region, and his abdomen was rigid and tympanitic; pulse, 100; temperature, 101° F. His general appearance was so good that I could hardly believe that he had any serious abdominal injury, and I decided to await developments. Injury to the pleura and diaphragm was suspected from the situation and character of the pain. Next morning he seemed better. Pulse 96. Temperature 100°. His abdomen was, however, still rigid and tympanitic, and about noon his pulse suddenly went up to 130 and his temperature to 103° F.

I at once opened his abdomen in the median line above the umbilicus and found the spleen, which I present for your inspection, much enlarged and badly ruptured, almost torn in two, as you will see.

The abdomen was filled with blood-clots and bloody serum, and as soon as the tension was removed by opening the abdomen and withdrawing the distended stomach, a very severe hemorrhage began from the ruptured spleen. This organ was at once drawn out of the wound, and after clamping and separately ligating the vessels, it was removed.

The abdomen was cleansed and closed.

The patient made a good recovery.

Dr. Wallace Johnson made examinations of the blood, which are interesting, and which he will give.

Use of Hydrogen Dioxide in Rhinology and Laryngology.

The results obtained by Dr. H. Halasz from the use of hydrogen dioxide, although not brilliant, are at least satisfactory. Although this preparation will not prevent suppuration of the middle ear, when this has occurred, it facilitates the use of other remedies, and renders them more efficacious. The author always begins the treatment of otitis media purulenta with the use of hydrogen dioxide, and where this fails to check the suppuration after six or eight applications, he has recourse to other remedies. In those rare [!] cases where trich-

loracetic acid is powerless to check the suppuration, Dr. Halasz finds that if hydrogen dioxide be used for a week, the trichloroacetic acid is then efficacious.

Dr. Halasz finds that hydrogen dioxide rapidly checks the bleeding which follows the removal of nasal or aural polypi. In fact, it is a powerful styptic. In epistaxis, a wad of cotton, wet with hydrogen dioxide, if applied against the bleeding point, instantly checks the hemorrhage.—Dr. J. Jankelentch, in *Revue Hebdomadaire de Laryngologie D'Otologie et de Rhinologie*, Dec. 24, 1898.

Diet in Acne.

The regulation of the diet in this troublesome and so often obstinate affection, is now generally admitted to be the most important element in the treatment of the disease. Patients themselves will usually have been trying various dietary experiments, along with the ordinary home remedies, before consulting a physician. Unless, however, the most explicit directions are given as to the proper diet, serious mistakes will be made by patients in the selection of foods, and especially as to its quantity. As Dr. Jackson says, in his *Manual of Diseases of the Skin*:* "The well-to-do are prone to eat too much, and it is remarkable how rapidly their acne will improve by reducing their diet to the simplest elements. In many of them a milk diet, provided milk agrees with them, will accomplish a marked benefit." On the other hand, many young girls almost starve themselves, entertaining the mistaken idea that a low diet will give them a fine complexion. Nothing could well be less true than this. Especially is there a prejudice against butter. The old explanation that skin eruptions were mainly due to the use of too much butter still remains absolutely true for most non-medical people, and even for some medical men. That butter should be used freely and that codliver oil and iron should be the only drugs required in many cases, as Dr. Jackson insists, would, to these good old conservatives, seem rank heresy. It is evident that more definite ideas as to the diathesis that underlies the etiology of acne have been acquired, and that the dietetic management of it rather than any empiric use of vaunted specifics constitutes the most modern therapeutics of this extremely frequent and bothersome condition.

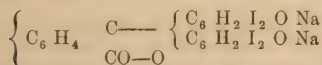
*From advance sheets of the third edition of a *Ready-Reference Hand-Book of Skin Diseases*, about to be issued by George Thomas Jackson, M. D. Lea Brothers & Co., Philadelphia. Publishers.

Rapid and Successful Treatment of Chronic Ulcers of the Leg with Antinosine.

A. H. Ohman-Dumensil, St. Louis (*St. Louis Med. and Surg. Jour.*, March, 1899,) in an exhaustive article on this subject, read before the St. Louis Academy of Medical and Surgical Sciences, Feb. 21, 1899, said that the difficulty of successfully treating ulcers has long been a source of much irritation to both physicians and surgeons, and especially so when it is the leg which is the part involved. The theoretical treatment by absolute rest of the leg is impossible in actual practice, as patients will not keep the limb absolutely quiet. Strapping with adhesive straps is far from being invariably successful. Being unsatisfied with the methods usually employed, he cast about for something simple in application, and which would give good results with but little trouble.

Having had a certain amount of experience with nosophen, and having had the most flattering results, the thought suggested itself to him that its sodium salt should be of value in the treatment of ulcers of a chronic nature. This he expected from the fact that it is antiseptic, slightly stimulating, and more or less desiccating in its action.

Antinosine is the sodium salt of tetra-iodophenol-phtalein, and has the following structural formula:



It is a dark blue, amorphous powder which is rapidly soluble in water and alcohol. Continued exposure to the carbonic acid of the air will decompose it into nosophen and carbonate of soda. It has the advantage of being non-toxic, non-irritant, and odorless. The physiological and bacteriological properties of antinosine have been thoroughly written up by Walter Loeb, N. Lieven, C. Bing, N. Zung, W. Kruse, G. Noack, Dreyer, D. de Buck, and a host of others who have carried on their experiments in the clinics and laboratories of leading European universities.

Antinosine has fully demonstrated its good effects in a variety of affections. Chronic ulcers of the leg are acknowledged to be among the most stubborn to treat, and the fact that so many and diverse cures are published is sufficient evidence of the difficulty attending a successful treatment. Histories were given of a series of cases which have been treated at the St. Louis City Hospital. From the fact that all of the patients sought relief in an eleemosynary institution, it may be readily surmised

that they were not in the best of circumstances; and when admitted their ulcers were in a very bad condition. Such being understood, the difficulties of the problem which presented itself can be very easily understood. *Per contra*, the method of treatment pursued was of the simplest, and such as any physician or surgeon, whether located in the city or country, could easily practice. The ulcers were dressed daily at first and then every other day in the following manner: The ulcer and adjacent parts were thoroughly washed and irrigated with a one to a thousand bichloride solution. After this the ulcer was thoroughly dried with absorbent cotton or gauze. This having been done, the powdered antinosine was lightly distributed over the entire affected surface. Over this was placed a gauze dressing, and the whole held in place by a roller bandage not too tightly applied. This method, which is simplicity itself, succeeded beyond all expectation.

In those cases in which elevated, hard, infiltrated borders existed at the edge of the ulcer, the first treatment was a thorough curetting of the infiltrated border and of the surface of the ulcer. Then the dressing outlined above was applied. In the course of the treatment of a case it has been occasionally found that a small part must be curetted, and when done a new impetus is given to the curative process.

A consideration of the histories of cases given show that no particular selection was made except in so far as all were chronic. All ages were represented, from early adult life to old age. Improvement set in from the beginning of treatment. This in itself is an advantage in the employment of any remedy, more especially in private practice. For, directly a patient sees improvement, the more willing is he to continue its use as he has been directed. Some of the internes omitted the application of antinosine, and the patients requested its continuance, as they observed their ulcers getting worse. Others, not considering the remedy rapid enough in its results, substituted strapping with adhesive plaster, and the condition rapidly became worse, only to be again restored to its former improved condition in a very short time. These circumstances impressed themselves very forcibly upon all those who had occasion to observe the patients. Another advantage was the ease with which dressings could be made.

One circumstance which impressed the writer very forcibly was the small influence which organic diseases of the viscera exercised upon the ulcers. Case 4 is a notable example. Despite the fact that the man had serious kidney

lesions his ulcer continued to improve, and when he finally died in coma it was almost cured. It must not be forgotten, however, that intercurrent ailments were treated upon general principles, as it would not be a fair test to leave patients neglected for the mere sake of an experiment. All the patients improved in general health, and seemed to react much better to constitutional measures whilst their ulcers were treated. Whether there exists an interdependence between the two, or that it was a mere coincidence, he does not stop to discuss.

At all events, one condition which was noted was that pain diminished and disappeared in so far as it was connected with the ulcers. The limbs, freed of their constricting bands, recovered their normal forms, and the skin regained its normal appearance. Another peculiarity noted was that in many cases in which varicosities existed the enlarged veins become smaller, and the ulcers diminished in spite of the presence of this exciting factor. In fact, the entire condition improved, and patients assumed a more cheerful aspect in a very short time. More than this could be noted. The patients could very soon act as "details," performing various duties which exacted walking, and did so without suffering any particular amount of pain. In fact, some expressed themselves as gratified that they could obtain this relaxation from the dull monotony of the wards, and realized at the same time that they had regained their usefulness in the ordinary duties of life.

It was with the greatest difficulties that many patients could be retained in the hospital, so well did they feel. But it was considered better to keep them under treatment until they could be discharged with safety to themselves and confidence in the value of the treatment.

It may not be amiss to say a few words in regard to the method of treatment. The object in choosing the worst forms of chronic ulcers and the simplest forms of treatment was to submit antinosine to the most critical test, and it answered it most excellently. A better technique to follow is to apply to the ulcers a strong solution of antinosine in water, and then place on the treated surface antinosine gauze. This will hasten a recovery, more especially in those who are placed in comfortable circumstances. There need be no hesitation felt in the amount of antinosine employed, for it is not toxic. It is non-irritating after the first two or three dressings, and even then there is but slight pain which lasts but a half minute. These are certainly advantages possessed by very few agencies which have an equal amount of efficiency

as antiseptics, and by none which can act as favorably on chronic ulcers.

A New Coffee.

It is an interesting fact that chemically milk and grape juice are almost identical, and that the nutritive qualities of both are almost the same, a pint of each being equivalent to at least a pound of meat.

In what is supposed to be the active principle of the two great domestic drinks of the world, coffee and tea, we find a like chemical similarity existing between caffeine and thein, both, to a certain extent, stimulants, and both having the power of checking the waste of nutrition until the full power of the food has had time to exert its influence on the elements of life and strength. It is for this reason that the miner can accomplish so much hard work, when for breakfast at least his principal food is a pot of coffee and a crust of bread, and many a business man goes to his morning's work with no other nourishment than a cup of coffee and a roll.

The action of tea and coffee, although differing to a certain extent, yet undoubtedly reach their results through the same physiological line; the same as *ignatia* and *nuxvomica*, the active principles of both of which is strychnine.

It has been generally supposed the narcotic principle of coffee, which at times produces positive toxic, or drug action, is caffeine, and that the stimulating effect of the beverage is owing to the 1 or 1.5 per cent. of that alkaloid which it contains, but recent scientific investigations show that this is true only in part, as much of its beneficent action can be traced to the aromatic substance contained in the bean developed in roasting, giving the delicious aroma, in which caffeine has no part.

A variety of coffee grows wild in the island of Bourbon, bearing the name of *café marron*, which, while it contains no caffeine, still has, to a certain extent, the odor and the stimulating effect of the coffee of commerce. This coffee lacks much of the delicate and fragrant aroma of the best grades of coffee, but it must be remembered that the shrubs grow wild and have never had that cultivation so essential in developing the highest qualities of any product. In time, under proper cultivation, this, to us, new product, may and probably will, have the delicate flavor and much of the stimulating properties of our best grades of coffee, without any of their deleterious effects.

The immense territory in the West Indies and the Philippine Archipelago, which through

the triumphs of our arms has recently been opened to a higher civilization and a more energetic progress, will yield a rich return in the products now confined to a limited area, and daily becoming more important to the arts, the industries, and the food of the world. Not alone the coffee, in its various varieties, with or without caffeine, improved by culture, but the cinchona, the India rubber, and many of our most valuable drugs, can be produced in a great abundance, and of as fine a quality, in the territory now open, or soon to be opened, to our enterprises and industry, as in the narrow limit in which the produce has been confined.

Both Cuba and the Philippine Islands will undoubtedly in time form independent governments, but into both will have been introduced the energy, the enlightenment of that American nation, which broke the shackles of their slavery and their debasement, and rendered it possible for them to develop free institutions, and the general education of the people to develop the resources of a country the possibilities of which have no superior in the world.—*Med. Times*, March, 1899.

Vaginal Cæsarean Section.

Medical Press, Feb. 22, 1899, contains an abstract of an address by A. Dührssen, Professor of Gynæcology, University of Berlin, delivered before the Berlin Medical Society, January 4, 1899, which appears worthy of reproduction in full.

Thanks to asepsis and Säger's method of vaginal suture, the old Cæsarean section has lost much of its terrors, so that indications for it are not confined to absolute obstacles to delivery, but are extended to cases of moderate obstruction.

A substitute has been proposed for the operation in perforation and symphysectomy. I have substituted vaginal Cæsarean section in one case, and I repeated the operation last year. The description and the results of the operation have already been published in a monograph. It consists essentially in a sagittal splitting of the anterior and posterior vaginal culs-de-sac and separation of the bladder from the uterus and splitting of the uterine wall as far as the lower uterine segment is required. In this way, in the first case, I was able to extract at term a child weighing 4,700 grm. Puerperium normal.

In the monograph I have formulated the three following indications for the operation: (1) Abnormalities of the cervix and lower uterine segment, which render dilatation impossi-

ble or difficult. (Carcinoma, rigidity, stenosis, sacculation.) (2) A dangerous condition of the mother, that renders speedy delivery necessary. (3) Dangerous conditions that will lead to speedy death. It was on this account that I operated last year in a case of mitral insufficiency and dilatation of the right ventricle; in which the patient had passed several days and nights sitting upright in a chair. There was still some hope if the uterus could be promptly emptied; otherwise, it was evident she would die during the course of the labor. The operation was performed as described. The blood was almost black. Easy turning and extraction of an asphyxiated female child; but immediately afterwards the pulse stopped, and, finally, whilst attempts at resuscitation were being performed, sutures were inserted, the placenta was removed, and the uterus plugged. The operation lasted, at most, five minutes before the child was viable. The autopsy showed that the operation had been entirely extra peritoneal.

In case of carcinoma, extirpation of the uterus should follow extraction of the child. That this would be successful was shown by a case of rupture of the uterus, which was followed by successful extirpation. The results of other operators who have adopted this method have been even more favorable than my own, when, as I recommended, the posterior vaginal wall was split up. The mortality was 27 per cent., a favorable result when one remembered that in eight out of the eleven cases carcinoma was the complication that called for the operation. Some, such as Olshausen, have a horror of the operation, because they believe that speedy delivery at term is incompatible with gentle handling, and that gentlemen recommended the classical Cæsarean section with subsequent removal of the organ. But Olshausen's operation is a much longer one, and presents more danger of shock and infection, and more manipulation of intestines.

As regards hæmorrhage, it is free in both forms of operation, but in the vaginal it ceases as soon as the hand is introduced. Drawing down of the uterus and plugging are effective means of arresting hæmorrhage. The operation is also indicated when there is premature separation of the placenta with absence of pains, and when the cervix is not dilatable.

Treatment of Uræmia by Injections of Serum in the Renal Vein.

The Paris correspondent of *Medical Press*, under date of February 19, 1899, reports that at last meeting of the Lyons Medical Society,

M. de Lignerolles gave an interesting account of his treatment of uræmia by injections of serum into the renal veins. The kidney, he said, possesses an internal secretion which it pours into the organism by means of its efferent vessel. The importance of the antitoxic rôle of that secretion against hurtful substances that the kidney could not eliminate had been demonstrated by numerous experiments and by clinical facts. To remedy that renal insufficiency Brown Séquard, Meyer, Ajello, and Parascandolo injected in animals deprived of their renal organs the diluted juice of kidney extract; they obtained in uræmic troubles very favorable results, which confirmed the clinical observations of Dieulafoy, Teissier, Donovan, and others. But "would it not be better," asked Brown-Séquard, "to employ the venous blood of different parts of the organisms than the extracted juice of these parts. The venous blood coming from an organ contains, in fact, the principles of the internal secretion special to that organ."

This conception, which had already guided Meyer in his experiments on the periodic respiration of Cheyne Stokes, had been realized by Prof. Vitzon, of Bucharest. The remarkable cases of prolonging life which he obtained in animals, from which the kidneys had been removed by injections of defibrinated renal venous blood, encouraged Dr. Turbure to treat in the same way patients suffering from uræmia. Under the inspiration of Prof. Teissier, the speaker made a special experimental study of the treatment at the hospital.

The blood of the renal vein of a young and healthy goat was drawn under perfectly aseptic conditions, and its serum decanted into small six drachm bottles. The toxic properties of the serum were insignificant, especially when the liquid was injected into the subcutaneous cellular tissue.

The cases he presented to the Society were not numerous on account of want of time, but such as they were they merited attention, not only on account of the novelty of the method, but also, and what was more important, by the constancy of the results obtained. The first case was that of acute nephritis complicated with uræmia. The patient, a boy 15, entered the hospital suffering from anasarca, the result of scarlatina. The urine contained a large quantity of albumin, leucocytes, and cylinders. Vomiting was persistent. The symptoms became so grave that an injection of six drachms of the serum was made in the right flank. The following morning the improvement was considerable; the violent headache

had subsided as well as the vomiting, and four days afterwards the œdema had disappeared, while the urine, rare before the injection, returned with great abundance. All traces of the albumen had disappeared at the end of a fortnight, and the patient rapidly gained strength. Another case was that of a woman, æt. 60, who entered the hospital with signs of chronic nephritis (bruit de galop heart), a large quantity of albumen in the urine, diminished renal permeability. An injection of the serum of the renal vein produced a very notable improvement in all the symptoms, and in the general condition of the patient. Here also the albumen disappeared.

The details of the following case were furnished to the speaker by Prof. Turbure, of Bucharest:

Nicholas V., æt. 27, entered the hospital with generalized anasarca; the legs were swollen to the abdomen and the patient complained of frequent micturition, thirst, headache, pains in the back, and tingling sensation in the fingers. The lungs, heart, and liver appeared sound. The urine contained albumen, and was very abundant (5 litres). In a few days these symptoms grew much worse, the headache became excessively violent, dyspnœa set in, and finally he was seized with tonic convulsions, in spite of the application of repeated wet cupping. The quantity nor the quality of the urine could not explain these phenomena, what was wanting was the internal secretion of the kidneys, whose office was to neutralize the toxins accumulated in the organism. This point was remedied by injecting under the skin of the patient three drachms of defibrinated renal venous blood, drawn from a strong and healthy dog. A few hours later the patient became calm, and asserted that he felt much better. Four days afterwards the headache returned, but yielded to another injection, and the urine diminished by a third. A few days afterwards the patient insisted on having another injection, and in all six were given with constantly improving results, so that at the end of six weeks he left the hospital cured.

In summarizing the effects of the treatment, M. Lignerolles said that the effects of injections of six drachms showed themselves in general a few hours after the injection. The violent headache was the first to disappear, while the nervous troubles, prostration, weakness, melancholy, delirium, gave place rapidly to gaiety sometimes exuberant; the vomiting ceased after one injection, and the oppression or dyspnœa was eased in a very short time, while the urine, rare before the injection, became very

abundant under its influence, with consequent removal of the edema.

From all these facts he would conclude that injections of the serum of the renal vein could be employed with success against the uræmic complications of nephritis, and could contribute to the improvement of these maladies, as he had several times observed. They furnished to the organism the internal secretion wanting, and allowed the kidney to recommence its normal function of excretion and its anti-toxic rôle.

Intra-Scrotal Enlargements with Especial Reference to Their Diagnosis.

The *Memphis Lancet*, March, 1899, reports in substance a paper by Dr. W. B. Rogers, read Jan. 17, 1899, before the Memphis Medical Society, and the discussion thereon, which we regard as a valuable contribution to the subject.

Dr. Rogers adopted the following anatomical classification:

I. *Enlargement of the cord alone, i. e., from, or including, or surrounding the cord:*

- a. Varicocele.
- b. Hydrocele of the cord—
 1. Encysted.
 2. Diffused.
- c. Hernia—
 1. Enterocoele.
 2. Epiplocele.
- d. Hematocele.
- e. Spermatocoele.

II. *Enlargement of the testis alone:*

- a. Inflammatory—
 1. Epididymitis.
 2. Orchitis.
- b. Non-inflammatory—
 1. Hydrocele.
 2. Hematocele.
 - Simple.
 - Congenital.
 - Symptomatic.
- c. Sarcocoele—
 - Inflammatory (Simple).
 - Syphilitic.
 - Tubercular.
 - Fatty.
 - Cartilaginous.
 - Malignant.

III. *Enlargement of both cord and testis:*

- Hernia.
 1. Enterocoele.
 2. Epiplocele.

Under this head will come some of the other enlargements if fully developed.

Diffuse hydrocele of the cord is a collection of

serum in the connective tissue. *Encysted hydrocele* of the cord occurs in the process of the tunica vaginalis.

For the purpose of the diagnosis we may divide these enlargements into the (1) *reducible* and (2) the *irreducible*. Of the enlargements of the cord, hernia and varicocele are *reducible*. When reduced pressure will prevent the return of a hernia, but not a varicocele. Hydrocele and hematocele are *irreducible*: the former is transparent, the latter opaque. In negroes, where this test is of no value, a hypodermic may be used to make the diagnosis. *Fatty tumor* of the cord has occurred, but had best be let alone, unless large.

Of the enlargement of the testis alone, only one is *reducible*, viz., congenital hydrocele.

Another division may be made of these enlargements into (1) *cystic* and (2) *solid*, the two being readily differentiated by puncture with a hypodermic.

In uncomplicated tumors of the testis a diagnosis can generally be made without asking the patient a single question. The diagnostic features of inflammatory enlargements of the testis are sufficiently plain.

Of the hydroceles, the *simple form* is due to a loss of balance in the blood vessels of the parts, leading to an effusion of serum into the tunica vaginalis. *Symptomatic hydrocele* is due to a pathological condition in the testis. It is important to differentiate these two for therapeutic reasons.

Hematocele is due to traumatic ruptures of the large vessels around the epididymis. It is usually absorbed, but if not it may be laid open and cleaned out.

Of the *solid enlargements of the testis*, *simple sarcocoele* can be diagnosed by the history and by exploration. It is a slow inflammatory process, with a deposit of fibrin in the connective tissue of the testicle. It forms a small, hard, painless tumor.

Syphilitic tumors do not get large, and are usually confined to the body of the testicle. Dr. Rogers cited a case in which the enlargement was double and confined to the epididymis, causing impotence. A cure was obtained by the iodides. Syphilitic tumors are painless and of slow growth.

Tuberculosis of the testis begins in the epididymis, usually the head, grows slowly and painlessly, and tends to become cheesy, the skin breaks and a fungous growth results.

Of fatty tumors one case is reported.

Cartilaginous tumors are found in the testis in common with the parotid and mammary glands, and in the testicle are generally asso-

ciated with malignancy. This tumor is very hard.

Malignant tumors grow rapidly, and, in the case of carcinoma, cause the neighboring lymphatics to be enlarged. Carcinoma is painful, sarcoma is not. Carcinoma is said by a well-known author to be common in the young, but this is not Dr. Rogers' experience. The features which belong to these growths in all localities and which separate them from each other, serve as diagnostic points for malignant tumors of the testis.

Hernia involving cord and testis is generally not difficult to recognize.

DISCUSSION.

Dr. Frank A. Jones has seen many cases of *syphilitic sarcocoe* among the negroes at the East End Dispensary.

Dr. Wm. Krauss has had the opportunity of examining specimens of all sorts of tumors of the testicle, and a recent one submitted to him by Dr. Smythe was found to be a *fibromyoma*, probably springing from the muscular tissue of the walls of the blood vessel or of the vas deferens. Another case from the same operator proved to be purely fibrous, of inflammatory origin.

Dr. F. D. Smythe has seen an inflammatory enlargement of the cord quite often from *sepsis* following the operation for varicocele. In regard to the cases referred to by Dr. Krauss, the *fibromyoma* was very large, extending up to the external ring, and had a colloid center. The fibrous enlargement was small and very hard, interfering with sexual intercourse and causing pain in the testis.

Dr. G. G. Buford mentioned a case where the patient rode home on a mule after having the testicle punctured with a hypodermic, and an *orchitis* was set up, for which he was held responsible. In another patient with a *tubercular sarcocoe*, pain was quite a prominent symptom.

Dr. E. P. Sale called Dr. Rogers' attention to the omission of spermatocele (inserted above to make the table complete.) This is a small, fluctuating tumor of the cord, containing "seminal seed."

Dr. R. B. Maury reported a case which was looked upon as *epididymitis* or *orchitis*. It was of fifteen days duration when he saw it, and containing fluid, was tapped, and the testicle found enlarged. There was no history of venereal disease, but of an effort on the part of the patient to catch himself and avoid a fall, and this was followed by a pain in the testis. There was subsequently another slight injury, with re inflammation of the testicle and its final protrusion and destruction. Dr. Maury has

seen ovarian pain follow just such an injury (indirect trauma).

Dr. Rogers referred briefly to the treatment of *hydrocele*. Injections of iodine, tannic acid, etc., cause restoration of the lost balance to the blood vessels. The "open method" of free incision and packing causes obliteration of the sac; carbolic acid causes destruction and inflammation. In a case treated by iodine, carbolic acid, and the "open method," a recurrence was relieved by repeated injections. In reply to a question from Dr. Williams, he believed *dermoid cysts* are rarely met with in the testicle. In reply to a question from Dr. Sale, he had not used turpentine as an injection in *hydrocele*. In reply to a question from Dr. Moore, he does not think the injection of carbolic acid is attended by any danger of carbolic acid poisoning. After treatment by injection, some patients remain well four or five years and then the trouble recurs.

Dr. Smythe thinks carbolic acid cures by adhesion.

Dr. Sale has used turpentine and oil in one case by injection, bringing about a cure, but producing mild strangury. It did not cause much pain.

Dr. Krauss said that adhesion between the surfaces of the tunica vaginalis was not necessary for a cure, but only a closure of the openings in the serous membrane.

Tinctures from Fluid Extracts Not Proper.

Among the many practical and valuable "notes" on drugs, etc., in E. R. Squibb & Sons *Semi-Annual Price List*, Jan. 1899, we note that "tinctures are very frequently made from the fluid extracts, and some manufacturers issue formulas for making them in this way. There is no proper nor admissible way of making official tinctures other than by the pharmacopœial processes, and diluted fluid extracts are not tinctures, and cannot properly nor safely be labelled or dispensed as such, however common the objectionable practice may become. A number of the more important tinctures of the Pharmacopœia, properly made from good materials, is offered here, and a column showing the strength of each tincture is given. This column can hardly fail to be a cogent argument against this class and in favor of the more uniform fluid extracts. It will be seen by this column that the strengths vary all the way from two-thirds of a gramme to one-two hundred and seventy-fourth of a gramme to the cubic centimetre. Several, however, are from one-sixth to one-twelfth of a gramme to the cubic centimetre, and therefore the fluid ex-

tracts of the same drugs, which are uniform in strength, are from six to twelve times stronger than the tinctures. * * * And the dose—usually a disagreeable one—is six to twelve times as large, and this latter at a time when it is claimed that homœopathy gains so much in popularity as to displace the regular physician by the smallness of doses.

Inhalation Treatment of Consumption.

Dr. William Murrell, London, contributes a valuable paper on this subject to the *British Medical Journal*, January 28th, 1899. Clinical experiments and observations, extending over six months, were made on about 20 phthisic patients, who were caused to daily respire air impregnated either with the oil of cinnamon or the oil of peppermint, but no beneficial results followed. The growth of the bacillus tuberculosis did not seem to be affected by the vapors of either of these oils.

Experiment was then made with a six per cent. solution of formaldehyde—a percentage that could be tolerated by most patients, while some could stand a higher percentage. One or two inhalation "sittings" were required a day—inhaling compressed air made to bubble through the formaldehyde solution. Some of the patients suffered considerable irritation of the posterior fauces, which sometimes caused spells of violent cough, but the treatment was, for the most part, well borne. Of twenty cases—5 with well marked lung cavities and 2 with tubercular laryngeal complications—thus treated, the results were inconclusive in 6 cases, as other treatments were followed at the same time. Of the remaining 14 cases, 12 received marked benefit, while the treatment of 10 cases practically failed. Dr. Murrell concludes that "the best way of treating tuberculous phthisis is to obtain the bacilli from the expectoration, cultivate them, pass over them various volatile substances until one is found which will arrest their growth, and then administer it by inhalation to the patient. This, by no means, precludes the use of fatty foods and other substances, such as cod-liver oil, etc."

Maltzyme.

According to *National Medical Review*, February, 1899, Dr. C. F. Tucker, Syracuse, N. Y., has had excellent results from the use of maltzyme. A patient who claimed that she could not take cod-liver oil preparations took maltzyme with cod-liver oil with decided benefit during the entire summer. He thinks maltzyme free from the objections found in the diastatic malt products.

Book Notices.

Fever Nursing: *Designed for the Use of Professional and Other Nurses, and especially as a Text-Book for Nurses in Training.* By J. C. WILSON, A. M., M. D. Professor of the Practice of Medicine and of Clinical Medicine, Jefferson Medical College, etc. *Third Edition, Revised and Enlarged.* Philadelphia: J. B. Lippincott Co. 1898. Large 12mo. Pp. 241. Cloth, \$1.

This is one of the series of books being published by the Lippincott Co. on "Practical Lessons in Nursing." The fullness of the chapters on practical points gives the book a special value to doctors as well as to professional nurses. Indeed, being written as the doctor would talk to the one who is to be in charge of his fever patient, it contains a great deal more of detail than is to be found in the usual text-book for doctors, and thus it is most serviceable to physicians. But, for the nurse we know of no book that can take the place of this one. After devoting a hundred pages to fever nursing in general—every page of which contains valuable suggestions and information—the next over a hundred pages are taken up with the duties of the nurse in cases of the continued, the periodic and the eruptive fevers, and finally fevers with marked local manifestations, such as rheumatic fever, pneumonia, cerebro-spinal fever, diphtheria, and the bubonic or oriental plague. Such a book as this may well be adopted as the text-book in any training school for nurses. Nor could a more useful token of regard be presented a nurse than a copy of this revised edition, if the nurse has not already provided herself with a copy. We are pleased to call special attention to the low price of the book in its neat red cloth binding—only one dollar.

Manual of Chemistry. By W. SIMON, Ph. D., M. D., Professor of Chemistry in College of Physicians and Surgeons, Baltimore; in Maryland College of Pharmacy and in Baltimore College of Dental Surgery. *Sixth Edition. Thoroughly Revised. With 46 Illustrations, and 8 Colored Plates Representing 64 Chemical Reactions.* Lea Brothers & Co. Philadelphia and New York: 1898. Cloth. 8vo. Pp. 536. Price, \$3.25.

Within the three years since the fifth edition was issued, we find that while as much as possible of non-practical material has been eliminated, the book has been necessarily enlarged by the addition of some 30 or 35 pages. The author's long experience as a teacher has told him how best to state facts and experiments so as to serve best the wants of the student in furnishing a "guide to lectures and laboratory

work for beginners in chemistry," while yet supplying an ample "text book specially adapted for students of medicine, pharmacy and dentistry." The general arrangement of the work remains about as it was in the fifth edition; but the amount of added material of constant help to the editor, druggist and dentist is manifest on turning almost any of the pages. We know of no book on chemistry that so well fills the exact wants of student and doctor; and that this appreciation of the merits of the book is shared by others is shown by the rapid exhaustion of former editions and the quick demand for new ones.

Text Book of Obstetrics. By BARTON COOK HIRST, M. D., Professor of Obstetrics in University of Pennsylvania. Philadelphia: W. B. Saunders. 1898. 8vo. Pp. 846. Cloth, \$5 net; half morocco, \$6 net.

While some may suppose there are enough works on obstetrics to satisfy any demand, yet when a new one comes out by an able author, the reader sees in it enough to suggest the idea that the latest is the best. A striking feature of this new book is its profusion of plates and illustrations—many of the later being reproduction of original photographs. These illustrations, because of their half tone and printing on fine glazed paper, look like plates. We scarcely know where to begin to speak of the excellencies of this book for both a college text-book and the needs of the general practitioner. It might appear that whatever relates to operative obstetrics receives greatest attention. But when a fair comparison is made it will be noted that none of the details of essential description of normal labor or everyday occurrence are omitted. This must rank as a great work, and will undoubtedly be widely adopted as the College text-book, and also be used as the authority and guide book will by the practitioner.

Diseases of the Skin.—By MALCOLM MORRIS, Surgeon to the Skin Department of St. Mary's Hospital, London, etc. With Ten Colored Plates and Twenty-Six Engravings. New and Revised Edition. Philadelphia. Lea Brothers & Co. Large 12m. Pp. 589. Cloth.

This hand-book claims only to outline the principles and practice of dermatology; but it fulfils its part so completely that it really amounts to a well illustrated text book on the subject. Eight of the colored plates illustrate nineteen typical cases of skin diseases. The other two plates show the spores, the fungi, the bacilli, etc., of eighteen other diseases. Most of the twenty-six additional engravings have the excellence of delineation of the colored plates;

thus it may be said that the illustrations are all that could be expected of them. The text is as good as the pictures. The descriptions of diseases, the drawing out of diagnosis, the therapeutic advice, etc., give the book a special value to the general practitioner, which will help him in many a troublesome place. Ready reference to diseases discussed in the book is made easy by an ordinary ample index. As this is a revised edition of an already popular book, it needs no introduction from us. We may, however, remark that far more than is claimed by the author for his work will be found in its pages.

Practical Treatise on Fractures and Dislocations. By LEWIS A. STIMSON, B. A., M. D., Professor of Surgery in Cornell University Medical College; Surgeon to the New York and Hudson Street Hospitals, etc. With 326 Illustrations, and 20 Plates on Monotints. Lea Brothers & Co., New York and Philadelphia. 1899. Cloth. 8vo. Pp. 822.

It would be hard to find one blessed with better opportunities to examine and study injuries to bones and joints than those which surround our author. Besides large experience in private and consultation work, he has had eleven years of service in charge of the House of Relief (Hudson Street Hospital), New York, where traumatic cases are very numerous, and where he has seen examples of most of the rare forms of injury, "and some which have not heretofore been described." It will also be recalled that in about twelve years ago, Dr. Stimson published a two-volume work on fractures and dislocations, which naturally turned his studies in the direction of his present authorship. Advantage has been taken of all the surroundings, and now he comes before the profession with an invaluable work—clear in description as to all points of diagnosis of fractures and dislocations, and practical as to methods of treatment. What Hamilton's work was, Stimson's is. While, for the most part, the plans of treatment are based upon personal experience as to the methods advised, Dr. Stimson has been liberal in quotations from eminent and able authorities. Illustrations have been introduced wherever practicable. Skiographs are used for many illustrations; but in matters of diagnosis, the author refers to the X ray as somewhat disappointing—that is to say, with exception of wrist, elbow and ankle injuries, it has not "yielded much information of practical value which could not have been obtained by palpation." Probably its "usefulness will be increased by improvements in methods and apparatus."

The merits of this book, and the scope of its subjects, commend it to every practitioner—general as well as surgical.

Practical Hand-Book on the Muscular Anomalies of the Eye. By HOWARD F. HANSELL, A. M., M. D., Clinical Professor of Ophthalmology, Jefferson Medical College; Professor of Diseases of the Eye, Philadelphia Polyclinic and College for Graduates in Medicine, etc.; and WENDEL REBER, M. D., Instructor in Ophthalmology, Philadelphia Polyclinic, etc. *28 Illustrations and 1 Plate.* Philadelphia: P. Blakeston's Son & Co. 1899. Cloth. 12mo. Pp. 182. \$1.50.

Drs. Hansell and Reber have gotten out a practical work which we can heartily commend to all students of ophthalmology, who are interested in the many problems offered by the ocular musculature. The first three chapters, embraced in fifty pages, treat 1° of the anatomy and physiology of the ocular muscles, and 2° of the ocular palsies. This part is purely introductory, and in weighing the merits of the book should be so considered, for it is too much abbreviated to deserve more than a glance from those who are sufficiently advanced in ophthalmology to appreciate. Part III, 100 pages, is devoted to trenchant anomalies. This portion of the book has been written *con amore*, and presents more clearly and compactly its subject than any work with which we are acquainted. It is remarkable how thoroughly the ground has been covered. Few of the problems of the phorias and the tropias have been overlooked. We congratulate the authors, and trust that as their experience grows wider they may be willing to elaborate yet further their chosen field.

Human Anatomy. A Complete Systematic Treatise by Various Authors. Edited by HENRY MORRIS, M. A., and M. B., London, Senior Surgeon to Middlesex Hospital, etc. *Illustrated by 790 Woodcuts—the greater part of which are original, and made expressly for this work by Special Artists. Over 200 Printed in Colors. Second Edition, Revised and Enlarged.* Philadelphia: P. Blakeston's Son & Co. 1898. Large 8vo. Pp. 1274. Cloth. \$6.00.

As compared with the former edition, this is an improvement in every respect. The page of "errata," in the first edition, is omitted in the second. And yet we find, on page 634, in describing the inferior frontal convolution, the misprint to which that table of "errata" calls attention as occurring on page 708 of the first edition. Instead of the words, "joins the external orbital gyrus," we are told in the errata that it should read "joins the posterior orbital

gyrus." But, in a book of such size, dealing so completely with technicalities, it is next to impossible for any proof reader not to overlook some misprint; so that we only call attention to this item in order that, if it be an error of statement, it may be corrected in a future edition. But, taken all in all, this *Anatomy* is excellent, the descriptions of parts are good, and the illustrations, as a whole, cannot be surpassed in a work of the kind. It may be said to be more complete, even, than *Gray's Anatomy*, with which work only can it be compared. It includes "a special section on surgical and topographical anatomy," which gives it an advantage equal to the addition of *Holden's Landmarks*, as found in Gray. The illustrations, with comparatively few exceptions, are from original sources. So that this feature gives *Morris' Anatomy* a special value to one who is seeking different views of the same organ or part. *Morris' Anatomy* is rapidly gaining ground as a text-book in the colleges. The first edition was issued in 1893, and the price was \$7.50. This large edition was exhausted in five years, and the evident demand for this second revised edition was so great as to justify the publishers in reducing the price to \$6—bound in cloth. Reference to subjects is made easy by a very complete index. This edition is most unreservedly commended to the attention of students and practitioners, while to anatomists and surgeons it would seem to be indispensable as an auxiliary help to any work they may have.

For Neuritis or Neuralgia.

Dr A. L. Hodgdon, of Baltimore, Md, says (*Med. Observ.*) Jan. 20, 1899,) that he has found the following formula of great benefit in neuritis or neuralgia of probably rheumatic origin, when many other plans of treatment has failed,

R	Daturin.....	
	Colchicin.....	āā gr. $\frac{1}{10}$.
	Ext. Phytolacæ.....	gr. ij.
	Ext. Stillingiæ.....	gr. viij.
	Acid. Tartaric.....	
	Sodii Salicylat.....	āā 3j.
	Lithiæ Carbonat.....	
	Potas. Bicarbonat.....	
	Sodæ Bicarbonat.....	āā 3ij.

M. Make four powders.

S: Dissolve one powder in water, and take during its effervescence, three times daily.

If at any time the physiological effects of the drugs—especially the daturin—are made very manifest, reduce the dose to one half powder or less

Editorial.

Legality of Compulsory Vaccination to be Legally Tested.

The Richmond City Council some weeks ago authorized the appointment of a number of physicians to vaccinate all unvaccinated parties in the city. A penalty of \$5 a day was imposed by the ordinance upon each person failing or refusing to be vaccinated after due notice was given the parties. So far as we have heard, there has not been a case of harshness or unkindness on the part of any of the twenty physicians appointed to do the vaccinations. Their duty was to make note of the fact that such and such party refused to be vaccinated; but they have always yielded to any request on the part of the citizen to be vaccinated by his own family physician. But notwithstanding this, some persons have very thoughtlessly, and with absolute disregard of public health, positively declined to be vaccinated at all. These cases will come up before the Police Justice this week, who can do nothing else than impose the fines agreed upon. It is said that appeals will be taken, and an attempt will be made to show that the ordinance is unconstitutional.

In Hampton, Va., several parties have been before Mayor Hope for refusing to be vaccinated. Many produced certificates showing that they had complied with the law since they were summoned, and have been excused. But Mr. W. S. Russell, who refused to be vaccinated, was fined \$10 for violation of the ordinance relating thereto. He has appealed.

If it be constitutional to punish a man who carries about with him a concealed weapon—although he may not touch it while in public—it does not seem to us that there can be any unconstitutionality in the ordinances with reference to compulsory vaccinations. The unvaccinated person who, in times of an epidemic or endemic, is permitted to go about the streets or mingle in promiscuous assemblages, is far more dangerous to a community than he who carries about his person a heavily loaded pistol. Such unvaccinated person, however unsuspectingly he may have been exposed to the contagion of small pox, is apt to infect and kill more susceptible people, as he travels in street cars, or goes to market, or returns to duty on the street or in the store, than if he had deliberately fired his well loaded pistol at some aggressor—supposed or real. If the unvaccinated person has

any common sense, he knows he is in danger of contracting small-pox on exposure to it, and he as well knows that vaccination—repeated if necessary, until it “fails to take”—is as sure a preventive against small-pox as is the properly built house a protection against inclement weather. He who in this day ignores the protective value of thorough vaccination against small-pox manifests a degree of ignorance that is pitiable indeed.

Leprosy in the United States.

Readers of the daily papers must have noticed, from time to time, notes of cases of this loathsome disease occurring in the States. Thus far, the cases have been imported from leper sections of the world. But with increasing importations—cases that have escaped inspection or recognition by quarantine or health officers—the subject is becoming one of more and more importance. As it devolves on practitioners to instruct their legislators—national and State—it is well that doctors should acquaint themselves with the history of this dread disease so that they may give intelligent advice. Cases have been reported as occurring in New Orleans, Baltimore, San Francisco and other ports of entry. In this connection, an interesting case, reported by press dispatches from San Francisco, under date of March 7th, may be noted. It appears that Lena Crimm, a leper in almost its last stages, arrived in that city from Honolulu, and was sent to the county pest-house, where she contracted small pox. She is also incurably tuberculous. The attending physician, Dr. Tillman, has triumphed over the small-pox; and while shut out from the world, he has vaccinated all the lepers shut up with him in the pest-house.

Christian Scientists Prohibited in Oklahoma.

Dispatches received from Guthrie, Okl., state that both houses of the Oklahoma Legislature have just passed a bill prohibiting the practice of the “Christian Science” cure in that State. We trust that the profession of medicine in other States will be as successful in preventing the introduction of such nonsense into their States as were the citizens of Oklahoma in the instance in point.

Surgeons in the German Army.

The strength of the German army during times of peace is said to be about 500,000 officers and men—all told. For this army 2,155 surgeons, or about one surgeon to 250 men and officers,

Exemption of Army Surgeons from Capture.

In view of wars and rumors of wars, the following from Dr. J. C. Egan, of Shreveport, La., contributed to the *New Orleans Medical and Surgical Journal*, Sept., 1898, seems *apropos*. He says:

I am reminded of the days long past, when the war between the States was in full blast. In the first battles of the war of secession medical officers on both sides were (I believe) held as prisoners of war. I know some Louisiana surgeons were captured at Island No. 10 on the Mississippi river in 1861 and confined in prison at Chicago until the fall of 1862, when they were released and reported to Surgeon-General Moore, of Richmond, Va., for fresh assignment. During Stonewall Jackson's first Valley campaign in 1862, I was surgeon in charge of Gen. Dick Taylor's Louisiana Brigade in Ewell's Division of Jackson's Corps, and was by order of General Ewell assigned to act as Division Surgeon in the absence of Surgeon Hancock, who was at home in Richmond, sick with rheumatism. When General Banks was driven through Winchester in retreat toward Charlestown, accompanied by Dr. W. S. Love (at that time Surgeon of Wheat's Battalion of Taylor's Louisiana Brigade), I galloped into Winchester and took possession of a Federal hospital, in the large female college building. We found a well furnished and well equipped hospital and some Federal surgeons still in the building. Assuring them that they should be protected, we set them to work in assisting us in the care of the wounded, who were brought to us in large numbers, without regard to color of uniform. On reporting this action to General Ewell, whom I found in company with General Taylor, it met the approval of both generals, and I learned through them that General Jackson also approved it. At this same battle, Dr. Hunter McGuire, Jackson's corps surgeon, if I recollect aright, paroled several Federal surgeons, and put them in charge of a hospital in a hotel building, where an effort was made to collect the Federal wounded to be cared for by their own surgeons.

From that time forward this course was pursued in all the numerous battles that I participated in. After the battle of Sharpsburg, when General Lee crossed the Potomac into Virginia, several Confederate surgeons were left in charge of the wounded at that point.

At the last battle which I participated in, which was the battle of Mansfield, a number of Federal surgeons remained in care of their wounded; among the number was a Division surgeon, whose name I cannot recall. He

complained bitterly of our scant supply of medicines and other appliances necessary for the wounded. I told him to make out a requisition upon the Medical Purveyor of General Banks' army, and I would get General Taylor to send it under a flag of truce to General Banks, who was then in full retreat below Natchitoches. This was done, and two wagon loads of medical supplies were sent to the Federal surgeons at Mansfield.

Both Drs. McGuire and Love still live—the one in Richmond, Va., known to all your readers, the other an eminent physician of Winchester, Va., both of whom will no doubt concur with me in the above statement of facts.

Hot Air and Steam Bath.

In the run-mad march for new remedies, we are apt to forget well tried old ones than which none better can probably be drawn to light. If this note will cause the practitioner to stop a moment to consider what he is seeking to accomplish, and study what has been introduced as new therapeutic agents, he will soon satisfy himself that some of the methods that are better have been too entirely ignored. We have been recently impressed that a retrospection is demanded when we saw in consultation a most reputable practitioner striving to relieve an already acute tubular desquamative nephritis by the use of some of the new diuretics. When reminded of the derivative value of the skin in such cases, and the hot steam bath was applied while the patient was comfortably placed within a tent made for the purpose by Messrs. Frank S. Betz & Co., of Chicago, it was gratifying to see the beneficial effects upon the patient. Rheumatoid neuralgias and myalgias, chronic polyarthritis, etc., are likewise benefitted by such application of hot air or of steam. A word to the wise ought to be sufficient.

Vaccinate!

We repeat this urgent advice, because, from all parts of the country, come in reports of cases of small-pox—simply because of negligence with reference to vaccination. No disease can be more effectually stamped out. In referring in our last issue to producers of good vaccine lymph, an unintentional omission was made of Mulford's glycerinated vaccine lymph, which, like the lymph of the other producers, is guaranteed to succeed in primary vaccinations—retaining its activity from three to six months.

The Richmond Academy of Medicine and Surgery

Was entertained by Dr. Geo. Ben. Johnston during its meeting February 28, by the exhibition of a number of intra-abdominal tumors, etc., and remarks about the cases from which the pathological specimens had been removed. Some of the kidneys, fibroids, appendices, etc., had been removed long ago, but had been well preserved, and they had formed the basis of several papers which had been published. The care taken of these specimens and the well-kept notes of the cases illustrated how much of interest can be revived in such things when grouped together and exhibited. It would be hard to report the remarks as made most *apropos*, without illustration of the specimens, most of which drawings, we understand, will appear in the current issue of *Medical Register*.

After the meeting of the Academy at a called meeting of the profession of the city, etc., a general committee of arrangements was appointed to take the initiative with reference to the session of the Medical Society of Virginia, to be held in this city next fall. This committee will soon organize itself into sub-committees, and in a few weeks will be ready to make announcements, respond to inquiries, etc., concerning the said session.

University of Virginia, Medical Department.

During the meeting of the Board of Visitors March 3rd, on the unanimous petition of the Medical Faculty, it was determined to establish a hospital in connection with the University, and \$20,000 were appropriated to inaugurate the construction of suitable buildings therefor. Experience has shown that a large number of patients can be easily gotten to occupy the beds. This new departure will place the medical school of the University on a higher plane of efficiency than it has ever before occupied. Equally as important was the adoption of the recommendation of the Faculty that the medical course, beginning next fall, shall extend over a period of four years of graded study. We congratulate the University upon its advanced step in this direction, which keeps its graduates hereafter in touch with the regular profession of the country.

The University College of Medicine, Richmond, Va.,

Has adopted the four years' graded course of tuition, in keeping with all other reputable medical colleges of the country. A number of contemplated improvements in the curriculum are under advisement.

Dr. L. S. Foster,

Formerly of Mathews, Va., has removed to Williamsburg, Va., and entered upon his duties as Superintendent of the Eastern [Va. Insane] Hospital. He was recently elected to the responsible trust as the successor of the late Dr. James D. Moncure. Dr. Foster, as a former member of the Board of Visitors of the institution, is familiar with the needs of the hospital, and those who know him, as a physician have confidence in his ability to conduct the affairs of the hospital to the best interests of the patients and their friends.

Obituary Record.

Dr. George Henry Rohe, of Baltimore,

Who died suddenly from heart disease, in New Orleans, February 6, 1899, while on a visit to that city, leaves a gap in the ranks of the profession. He was born January 26, 1851, in Baltimore county, Md. After a thorough schooling in institutions in and about Baltimore, he began the study of medicine, and graduated from the University of Maryland in 1873. Afterwards he took a special course in dermatology, and published a work on the subject which was highly prized. For a short time, in 1885, he was an Acting Assistant Surgeon U. S. A. In 1881, he became a Professor in the College of Physicians and Surgeons, and for several successive years filled different chairs—one of which was that of mental diseases. In 1891, he was appointed superintendent of Spring Grove Asylum by the Governor of Maryland; and in 1896 he was selected to take charge of the new asylum at Springfield, Md., which position he was filling at the time of his death. He was an indefatigable worker, an able adviser, a distinguished specialist, the center of many a social circle. In 1890, he married Miss Coffin, of Baltimore—a descendant of the original settler of Nantucket Island, in 1660. A daughter was born of this marriage, who, with the mother, survive. His remains were brought from New Orleans and buried in the Baltimore Cemetery.

Dr. Henry C. Scott

Died at his home in Ashland, Va., March 6, 1899. He graduated from the Medical College of Virginia in 1857, and has been in active practice ever since. He will be kindly remembered by the students—present and past—of Randolph Macon College since that institution changed its habitation about 1867 from Boynton, Va., to Ashland, Va.

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Original Communications.

SURGICAL DISEASES OF THE LIVER.*

By I. S. STONE, M. D., Washington, D. C.,

Professor of Clinical Gynecology, University of Georgetown,
etc.

Gentlemen,—I am pleased to be with you, and talk to you for a short time on what may be called the *Surgery of the Liver*. You must not expect any important communications, for, although surgical operations in their phases are familiar to those who perform them, a description is difficult to put into words, and I also feel a little embarrassed in speaking before young men who are just now in the midst of their studies, and whom I feel are more familiar with the texts of their physiologies and anatomies than I am myself. But we will not longer discuss this matter, and will get down to the subject for the hour.

I need not tell you that the liver is below the diaphragm. A certain doctor had a patient who sustained a railroad accident. The patient died, and the autopsy was made. He gave a certificate of death due to "injury of the abdomen, with the liver displaced below the diaphragm."

The liver occupies the right hypochondriac region, and in normal condition its lower border reaches the margin of the ribs on that side—hence it is customary to say the liver is not below the level of the ribs. The eighth, ninth and tenth ribs cover the lower border of the liver. The left lobe of the liver extends far beyond the median line. The liver is quite movable in respiration, and in a great many instances it is prolapsed.

ABSCCESS, HYDATIDS AND CANCER.

Now, to pass on to the subject of *diseases of the liver*. The first and most important is *abscess from infection*, then *hydatid cyst*, and lastly *tumors and cancer*.

* A lecture delivered before the students of Georgetown Medical College, Friday, Feb. 24, 1899.

First. Abscess of the liver occurs mostly in tropical countries. For instance, those who reside in this latitude, and visit tropical countries, are apt to have abscess of the liver before they become acclimated, especially if any diarrhoeal or dysenteric troubles arise. The clinical history is a most important aid to diagnosis, whether a patient is in his native home or not. Among the symptoms are rise of temperature, quickening of the pulse, and very great constitutional disturbance.

Diagnosis is very difficult, and inquiries as to residence and previous history should always be made. It is important to make the diagnosis before the disease has gone too far. Usually, abscesses of the liver are single, in the majority of cases it is so, but in a number they are multiple; apparently two, three and four in number, as several points of infection may result in as many abscesses. But they seem to open from one into another, and after an operation by aspiration, or by abdominal section, the second or third abscess in process of formation will discharge into the cavity previously formed, and thus gain access to the drainage tube. If an abscess is neglected too long, it must rupture somewhere. A large number have been shown to open through the diaphragm into the pleural cavity, or pericardium, or lung. Should it open through the lung, the prognosis is favorable; also the opening into the intestine or through the abdominal wall; but if it opens into the peritoneal cavity it is almost always fatal.

Modern surgery of the abdomen has taught us important lessons in dealing with these abscesses through the peritoneal cavity. Lawson Tait deserves credit for boldly opening such abscesses through this cavity, and he taught that it was quite as safe, or even safer, to open through the abdominal cavity than to make a puncture.

To go back to some symptoms of abscess of the liver: Besides the chemical tests, there is usually a white coating on the tongue and pain in the right shoulder as well as in the

liver itself. It is remarkable, and impossible to explain why diseases of the liver are accompanied by pain in the right shoulder. In some cases of abscess we can get fluctuation, but this is depended upon as a diagnostic point now much less than formerly. When an abscess has reached such great size as present the sign of fluctuation, the patient is in a critical condition, and almost sure to die.

Jaundice is supposed to be present in abscess of the liver, but is not usually found unless the coloring matter of the blood has been influenced by sepsis. It may be due to pressure upon the liver ducts, but abscess is not primarily a condition which causes jaundice. The chief characteristic of the pus in the majority of cases is that it has a dark brown or chocolate appearance, and it sometimes becomes as black as pitch.

Cancer of the liver may simulate abscess, but if you have once seen a cancer of the liver you will know it by the presence of the hard nodules or hob-nail condition of the liver so characteristic in that disease, for in abscess the liver is tender and smooth, and not so much enlarged.

The treatment of abscess of the liver is chiefly surgical; it really cannot be treated in any other manner. As soon as the abscess is found, make an incision and evacuate the pus. Of course, there are men in whose hands aspiration would be safer than to make an incision; or, if you have a patient where a surgical operation cannot be thought of, it is far better, if the abscess is pointing high, to make an aspiration, and you might save your patient, where it would be dangerous to operate. But where good surgeons are to be had, and the abscess is pointing lower down, it is always better to open through the abdomen and properly drain. This instrument will show how it can be punctured and safely probed—(Hodder's trocar probe).

Some physicians have favored incisions of abscesses by taking out a section of a rib, and applying some caustic or irritant agent to produce adhesion between the surface of the liver, diaphragm and pleura. The pleura will be punctured when the abscess points high, but adhesions will guard the canal through which the pus would escape.

Some have used a cautery to burn through the abscess wall to avoid hemorrhage, but I do not recommend it, as packing will answer. An incision of the liver is almost sure to produce some hemorrhage. This operation, which some perform to cause adhesion to the peritoneum or pleura, is called an operation in two stages. It has its origin with the French.

Operations for abscess of the liver in the hands of surgeons generally have been attended by a much higher mortality than they should be. Many have lost a number of cases, while others have brought down a mortality of 40, to about 8 or 10 per cent.

Second.—*Hydatids of the liver* are frequently mistaken for tumors of other organs. Many men have thought that these tumors were of ovarian origin. An abscess is limited in size and can never be very large—in fact, could not be greater in size than the liver itself. An abscess will contain as much as a pint or possibly a quart of pus. The hydatid cyst may fill the abdominal cavity, and weigh a great many pounds; and if you can diagnose a large tumor of the liver, you will almost invariably discover that it is a hydatid. They are not very frequent. Some reports in works on surgery, give tables of 50, 60, or 100 operations. The relative importance of this matter will have to be considered from that standpoint. You may perhaps never see one in your practice. I have seen but one, and never operated for one. It is a rare disease in Washington. If you should see one, though, you will naturally make a mistake of diagnosis. They sometimes grow rapidly, and again are many years forming; but, as a rule, grow rapidly and without constitutional disturbance. An abscess causes great constitutional disturbance, but it is just the opposite with the hydatid. It is well known that cancer causes the most pronounced constitutional disturbance, and you will rarely mistake any other condition for malignancy.

BILIARY OBSTRUCTION.

The next part of the subject will be in reference to *gall bladder surgery*.

When the liver is in normal position, the gall bladder is felt only when it is enlarged. If you take a normal patient, unless very thin, I doubt if any one can feel the gall bladder. The appendix is easier to find, but, if the liver is enlarged or prolapsed, the gall bladder may be discernible. A great many physicians have mistaken a distended gall bladder for appendiceal abscess. We will dwell on the subject of its surgical treatment later.

Diagnosis.—The patient has a tumor below the rib on the right side. You will find an increasing tumor growing from the rib downwards. In cases of appendicitis, your patient will have sharp pains, a quick, sharp attack, rise of temperature, etc., and the seat of pain will be lower down or near the so-called McBurney point. On the other hand, a distended gall bladder produces less severe

symptoms, a gradual rise of temperature, and probably will be several weeks before it comes down to the level of the umbilicus. It is always oval, or perhaps heart-shaped. The lower end when distended, may properly be described as heart-shaped. I recently saw such a case, and stated at the operation that it looked like a heart—the color and shape of the apex of the heart. As far as diagnosis is concerned, such a tumor may deceive you, and you may think it is a tumor of the kidney, or displacement of the kidney. A movable kidney would not deceive you, however. Its main diagnostic point is in its slipping under pressure.

Tumors of the kidney enlarge from the posterior wall, press forward and seem to carry the peritoneum with them, and the large bowel is also pushed forward, causing resonance on percussion. The location of the renal tumor may be immediately under the rib, but there will be resonance on percussion from the gas in the ascending colon. On the other hand, with distended gall bladder, there is dullness on percussion downward continuous with the liver as far as the tumor extends. Ricketts, of Cincinnati, had a case in which he opened a gall bladder which contained a gallon of fluid. I did not see the report, but he assured me the tumor was of immense size. It is common to find several ounces of fluid. With a three-inch abdominal incision, it can be palpated down to the lower end of the cystic duct by a short finger. If the obstruction is due to a stone, and it is found in the cystic duct, the patient can generally be relieved.

Patients with biliary obstruction have a temperature of 101° F., or more, but no history of a chill; at least, it is not a rule to have one. The pulse will be from 100 to 110; no vomiting, and no special trouble with the bowels, which would be the case in appendicitis. The distension is an empyema, and is not often a collection of bile. There will be much pain, and the patient will say she feels a tumor below the ribs. Then you have a case presenting the ordinary characteristic symptoms of distended gall bladder. There may be a gall-stone history, but that is not important. Cholæmia and jaundice are results of obstruction of the common duct. There may be some jaundice from other causes. Cholæmia and jaundice are due to the obstruction of the common duct in nine out of ten cases. Not ordinary jaundice due to duodenitis, but that due to obstruction from stones. A tumor in this location might be a movable kidney, or might be an enlarged kidney due to hydronephrosis, and if you operate and simply find

movable kidney, you would feel much embarrassed. You cut down outside the rectus muscle, just below the tenth rib; three inches down will give you all the room you want for surgery of gall-bladder. If the tumor comes down to the level of the umbilicus, you may make an incision as low as it extends. After cutting down and finding the gall-bladder really enlarged, you should, with the finger, make a diagnosis of the presence or absence of stone. If the cystic duct is obstructed, you can ascertain this fact by palpation. The tumor is first aspirated, then incised, the stone or stones removed, and then the empty gall-bladder is sutured into the wound. Drainage is always used, and we prefer a rubber tube for that purpose. You cannot follow the hepatic and common duct to the duodenum. The omentum, duodenum and other viscera may prevent this. The common duct is behind the head of the pancreas, duodenum and omentum, under the lower border of the liver.

Many think it is easy to probe through the cystic duct into the common duct. When the duct is large and distended, it can be done, but, if adhesions have formed, and you will generally find adhesions in liver surgery, whatever the disease, they will displace the viscera and greatly add to the difficulties already existing. If the duct is dilated, it is possible to go through the cystic duct into the common duct and get the stone, but when not dilated and enlarged, it is difficult, if not impossible, to do so. This little cystic duct is one and a half inches long, as a rule, not very small, but the uterine sound could pass through easily. It is not over one eighth of an inch in diameter. As soon as diagnosis is made, you can use a probe or trocar (such as I here show you), or you can suture the gall-bladder to the peritoneum, or to the skin or muscle.

If a stone is in the cystic duct, its removal is an operation of great delicacy. There is a very thin peritoneal cover over the duct, and the duct itself is delicate, and any extraordinary force would produce rupture or laceration. So, with the finger in the abdomen, over the duct, on the stone, with ordinary forceps you gradually crush or otherwise move it. Mr. Tait has a special forceps for that purpose, called the alligator forceps, which I here show you. Be patient, and work slowly, for it is better to be slow and sure than too quick and tear the wall of the cystic duct, which is difficult to repair. One thing may be done in an accident of this kind, and that is to put in drainage and gauze packing, and try to get all of the

bile out of the peritoneal cavity. The removal of stones from the bladder itself is a simple operation.

Removal of a stone from the biliary passages is called *Cholelithotomy*.

If we attempt to remove a stone from the common duct, it is an operation not only full of difficulty, but is a dangerous and delicate operation. The gall-bladder is easy of access, but the common duct is hard to sound or palpate, but a large stone may usually be located. One thing may be done, and that is to give easy exit for the bile from the gall-bladder, or from the cystic duct, if dilated, into the bowel. Such an operation is called *cholecystenterostomy*. It means simply the juncture of two peritoneal surfaces—that over the bowel and that over the gall-bladder—facilitated by the Murphy button. The two surfaces are placed between the spring of the button, which gradually works through the bowels, leaving a permanent orifice where the button was located. It is commonly used between the stomach and intestine, or between two intestinal surfaces, but to-day we will speak of its use between the gall-bladder and intestine. Take one-half of the button and place it in the gall-bladder and the other half in the intestine; a suture will hold them in place; then join them, and the bile escapes into the intestine. The patient will probably improve, but in this operation we must not forget the stone in the common duct is the source of danger. Patients should be operated upon before there is much bile-poisoning. Treves, of London, has had a recent case, in which the patient had been sick for 16 years with cholæmia. He found that the common duct was very short and ended in a blind pouch. The patient was temporarily relieved by operation. The mental condition of all patients is bad. The toxic effect of the bile upon the brain and nervous system is as marked as that upon the general health of the patient. Many cases of cholæmia are due to stone in the common duct, and to begin an operation under such circumstances is a most formidable undertaking.

I cannot show you about these operations as much as I would like to do so. You may see the Murphy button applied, if you have never seen it, and get an idea of how it is placed. There is little difficulty if the gall-bladder is not contracted. The button is more difficult of application in contracted than in good-sized gall-bladders. We do not often find stones in both ducts. One may be removed, the other possibly cannot be, and then it is difficult to find an easy way out of the opera-

tion. The finger guides the forceps to its location, and it is done by touch and not by sight. The forceps may be padded and the stone crushed *in situ* without opening the duct. You will find several devices have been invented which may be used to facilitate closure of the duct in this operation. Halstead has one; a thin rubber bag, similar to that used in intestinal surgery, only of small size. Instead of the Murphy button, the inflated rubber bag is used, and the intestine put upon it and sutured over it. So in the common duct, after the stone is removed, this little rubber tube has been inserted in the gall-bladder and sutured over it, after extraction of the stone. When the operation of closure of the duct is nearly completed the bag is allowed to collapse, and is then removed and a suture used to close the small orifice. This is hard to do, as it is difficult to hold the viscera out of the way. The intestines try to fill up the little space. If you undertake this, you will find this little inflatable tube of Halstead's of great assistance. If you do cut down for stone in the common duct and do not suture, you will have leakage of bile, and in many cases peritonitis and death. Dr. Davis, of Birmingham, Ala., says in these cases bile may be removed by capillary attraction, by gauze packing.

In operations including *cholelithotomy*, etc., if the gall ducts are injured during operation, posterior drainage may be made so as to carry off the bile that it may not be allowed to get down into the peritoneal cavity, but personally I object to the practice. Any infectious fluid carried off, and patients will sometimes recover. Bile is not primarily or necessarily an infectious fluid. Many pints of it have been found in the peritoneal cavity, after injury to bile ducts, and yet the patients recovered.

Many speak about gall-stones who give you the idea that all persons with gall-stones require surgery. That is hardly true, for many of us may have gall-stones and never know it, and so you will have patients who will have gall-stones, and not be aware of it, because they rarely give pain except in transit.

There is one other method of getting a stone from the common duct, and McBurney, of New York, has performed such an operation successfully, and it will sometimes prove the easiest method of reaching the stone.

The method is to open the duodenum and find the opening of the common duct with a probe; sound for the stone, and then if possible remove it, and close the incision in the bowel.

Incision of the bile ducts is called *choledo-*

chotomy, and was first described and successfully practiced by Courvoisier in 1890. Although practiced by Greig Smith in 1889, he was not the first to tell about it.

If time would permit, I should like to tell you of cholecystectomy, or removal of the gall-bladder. As a receptacle or reservoir of bile, the gall-bladder is quite unnecessary, and its removal does no harm. It is quite as useless as the appendix, and appears to provide a source of trouble and danger to many. The operation is not very dangerous, and was popularized by the famous Langenbuch. In three cases I have removed the gall-bladder, and have obliterated and closed the lumen in others. In all cases the patients gave no sign of any discomfort from such surgery, and they all recovered.

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TYPHOID PERFORATION--OPERATION--RECOVERY.*

By HUGH M. TAYLOR, M. D., Richmond, Va.,

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Gentlemen,—You will recall that we recently, in connection with perforating gastric and duodenal ulcer, considered the subject of perforating typhoid ulcer, and its surgical treatment. Yesterday I had some interesting and instructive experience with a perforating typhoid ulcer, and I shall be glad if I can infuse the interest, and impart the experience, this case is capable of conveying.

An interesting little boy had been sick with enteric fever for six weeks: was then convalescent for two weeks; again sick with fever for ten days; and again free from fever for three days; and convalescence seemed once more assured. But a death-dealing stroke, from a seemingly cloudless sky, hurled gratefully uplifted hearts back into blackest despair.

In the onset of fever in this case, we had, as a complication, so much bronchitis that it was by no means easy to say which was the more important etiological factor—the bronchitis or the enteric fever. In fact, at no time were there enteric symptoms, and a diagnosis of enteric fever could only be made by exclusion and the existence of a prolonged continued fever. Not for one moment was there the

slightest trace of cerebral trouble. Never once did the child fail to say, when asked how he was, "I am all right," and daily he begged for something to eat and to be allowed to get up. While his fever for weeks ran high, there was astonishingly little systemic depression or functional disturbance. There were absolutely no abdominal symptoms, no pain on pressure, no tympanites—only a slight tendency to constipation, which yielded satisfactorily to simple enemata or mild laxatives. Towards the end of the fourth or fifth week, infection of the *middle ear* occurred (probably typhoid infection, as may also have been the bronchitis); the abscess soon perforated the drum, and discharged freely, for a week or more, and then gradually yielded to treatment.

You will recall, when I dealt with typhoid affections of bones, joints, otitis media, lymphatic glands, meningitis, and, in fact, suppuration occurring in any part of the body, during or subsequent to typhoid fever, I told you it was an open question as to which was the pyogenic organism—the Eberth bacillus, the staphylococcus, or mixed infection. Some writers are inclined to think that the typhoid bacillus, like the bacillus coli communis, with changed environment, may assume pyogenic properties. Others see in the intestinal lesions (ulcers), in the sores in the mouth, nose, bed-sores, etc., abundant avenues for the entrance of pyogenic organisms, and in the depression, incident to the fever, many foci of diminished resistance.

Several weeks ago, the fever seemed to have spent its force, and the child convalesced sufficiently to be up and around his room, but at no time were restrictions as to diet relaxed. About ten days ago, he again had continued fever for ten days, but the case was still atypical, in that there were no cerebral or enteric symptoms. Two days before the perforation occurred, he had no fever. This minute history is given you to impress the fact that serious enteric lesions may coexist without manifesting themselves by hemorrhage, diarrhoea, tympany, pain, etc., and this knowledge should beget, in every case of typhoid fever, typical or atypical, a guarded prognosis, careful restrictions as to diet and exercise, and watchfulness to note the first warning symptoms of perforation.

Yesterday morning his father called to tell me the child had slept quietly all night, but awoke about 6:30 o'clock in the morning with sharp pain in his abdomen. The pain lasted only a few minutes, and was quickly followed by a natural fecal action. Thinking the pain was

* Clinical Lecture before the Graduating Class of the University College of Medicine, Richmond, February 14, 1899.

incident to having a constipated action, his mother at once gave him a teaspoonful of syrup of figs. This, however, was promptly vomited, and several times during the next few hours spells of vomiting recurred. One more attack of sharp pain, which lasted only a few minutes, was experienced, and, after that time, the child insisted that he was all right, and had no pain.

Such was the clinical history given me on my visit, at eleven o'clock, and I of course recognized suspicious symptoms of intestinal perforation. The child, however, did not look sick enough to justify such a suspicion. He expressed himself as being without pain, and his untroubled countenance confirmed this assertion. There were no evidences of shock, and those who saw him at the onset of the sharp attack could not say that even then he presented any of the symptoms of shock. His pulse was now 115, and his sublingual temperature 101° F. Respiration was not noticeably increased, and his *morale* was exceptionally good; there was, however, some appreciable rigidity of the abdominal muscles. An absence of fever for several days, the sudden onset of pain and vomiting, a recurrence of fever, and rapid pulse, plus the abdominal rigidity, was the group of symptoms which made me fear a perforation.

Per contra, was the short sharp attack of pain peristalsis incident to having an action? Was the vomiting due to the acute intestinal pain and the dose of syrup of figs? Was the fever and increased pulse rate a product of ptomain production and absorption within the intact intestinal tract? Was the slight muscular rigidity voluntary contraction incident to the fear of pain on pressure, or real pain, conveyed to the solar plexus (the abdominal brain), and thence back to the abdominal muscles, and putting them on guard? It is common experience in typhoid fever to have pain *sine* perforation; tympantites is the rule, not the exception; tenderness on pressure notably in the ileo-caecal region is not infrequent; and few differentiations are more difficult to make than some cases of atypical enteric fever from chronic or subacute appendicitis. Time and again I have viewed with anxiety just as typical symptoms of perforation as those mentioned in connection with this case, in which the results showed no perforation to have occurred. I am dwelling so minutely on the symptoms manifested, to impress the fact that perforation may coexist with minor manifestations, or, in fact, as has been observed by others, with no symptoms at all. I envy the man who, right

or wrong, has confidence in his convictions; but I do not envy the patient, whose destiny is in the hands of the abdominal surgeon, who fails to realize that he who makes a positive diagnosis, in all intra-abdominal lesions, will not infrequently be in error. What we need in abdominal surgery is an improved diagnosis, rather than an improved operative technique.

A second visit, two hours later, did not lessen my apprehension as to the serious nature of the case. There was no noticeable change, except that his pulse had increased to 125, and his rectal temperature was 102.5°.

The child was sent to the Virginia Hospital, and a consultation arranged with Drs. Hunter and Edward McGuire and Virginus Harrison. At this time, there were more marked symptoms of serious intra-abdominal trouble, but still classical symptoms were absent. The face of the child was not expressive of impending danger: its respirations were not embarrassed; his abdomen was not distended; hepatic dullness was not effaced, and vomiting was not at all frequent. To offset these favorable indications, his abdomen was still, to some extent, rigid, and, what was especially ominous, as it is in all serious intra-abdominal infections, his pulse was now 140, while his rectal temperature was only 100.5°; the decreasing temperature and increasing pulse rate suggesting ptomain absorption, from sepsis and shock, and reduction of temperature, incident to shock of sepsis. Another significant symptom was no appreciable movement of gas—even with the phonendoscope—within the intestines. These last considerations pointed strongly to direct infection of the peritoneal sac, either by appendicial or typhoid perforation; but we must admit that the clinical picture was not formed by classical symptoms, and the portrayal could easily be taken for either appendicial or typhoid perforation. Whether the infection was appendicial or typhoid, was a matter of minor importance, as early operative intervention in either case was fully in accord with our conception as to what is best for the patient. The momentous problem to solve was whether the infection was within the peritoneal cavity or within the intestinal tube. A majority happily decided that the symptoms were sufficiently pointed to warrant a confirmatory incision.

Fifteen hours after the first onset of symptoms, assisted by Drs. Edward McGuire and Virginus Harrison, I made an incision over the caecal region. This site was chosen, as it would enable us to reach an involved appendix, and also give ready access to the lower

portion of the ileum, in the last eighteen inches of which a large majority of typhoid perforations are known to occur. On incising the peritoneum, a quantity of sero-purulent fluid escaped from the peritoneal sac, but no gas. The cæcum was quickly delivered, and not more than twelve inches of the small bowel was examined before the punched-out, pencil-sized hole in the ileum was discovered. There was but little if any appreciable inflammatory change about the intestinal lesion; in fact, it looked as if a cobbler's punch had been driven into a healthy bowel and a circular section punched out. To close the opening with deep mattress and Lembert sutures was the work of a few minutes. In ten minutes from the time the section was begun, the abdomen was opened, the lesion found, and sutured. This fact as to the time consumed is not mentioned to extol rapid work, for not infrequently rapidity of operating is at the expense of thoroughness. We would, however, impress the idea that the technique of dealing with typhoid perforations may be very simple and quickly completed. Upon first thought, it looks like desperate surgery to subject to celiotomy the cadaverous looking patient, ill with typhoid fever for weeks, with the added prospect of prolonged anaesthesia, extensive evisceration, etc., to find and suture the bowel opening, but knowing the usual site of the lesion, near the ileo-cæcal junction, we have, in all instances, a starting point from which to begin our search.

In addition to the free discharge of sero-purulent fluid from the peritoneal cavity, a number of flakes of lymph were discovered, and not more than half an ounce of greenish looking fecal fluid was found puddled near the perforation. Suppurative peritonitis was obviously quite general. No effort at walling had been made. No one who saw this clean cut perforation, with not the slightest trace of adjacent plastic peritonitis, could fail to be impressed with the idea that death was inevitable without surgical intervention. Twenty minutes more was consumed in eviscerating the patient, in wiping the intestines, in thoroughly irrigating with hot saline solution the abdominal cavity, and in placing multiple gauze drainage. In thirty-seven minutes from the beginning of the operation, the patient was removed from the table to his bed. Let me here remark that twenty minutes of this time could probably have been saved if the patient had been operated upon in the morning. At that time, it would probably have been best merely to have sponged off the soiled area, and drainage might have been dispensed with.

Granting that it is formidable surgery to subject a typhoid patient to an abdominal section, the fact has been impressed that these patients are no worse off physically than are many cases of appendicitis which are thoroughly septicised, and the same is true in delayed operations for bullet wounds, and in cases of perforating gastric and duodenal ulcer or gall tract perforations. Not infrequently an acute toxæmia, with a necrotic appendix as its focus, will, in twenty-four or certainly in forty-eight hours, bring even a strong patient to a typhoid state.

You may naturally ask, what hold upon life had this little patient, and others similarly situated, without operative intervention? I should say, from the revelations, absolutely none. As I have mentioned, there was not the slightest trace of plastic peritonitis without which there was no possibility of an adhesion of the perforation to adjacent structures or walling in of the focus of infection. The discharge of fluid fecal matter and its sequence, septic peritonitis, renders impossible a spontaneous cure.

Students of this phase of our subject claim* that "there are certainly a number of cases on record, in which perforation could not be doubted, which have recovered." But Fitz has well said: "Since suggestive—even so-called characteristic—symptoms may occur without any perforation having taken place, it must be admitted that recovery from such symptoms is not satisfactory evidence of recovery from perforation." We may well understand how a typhoid ulcer may destroy mucosa and muscularis, and give rise to a local fibrinoplastic peritonitis, and adhesion of the threatened point in the bowel, to whatever intraperitoneal structure with which it may come in contact. This local adhesive peritonitis may give rise to pain, etc., just as suggestive of perforation as are the atypical symptoms met with in some cases of real perforation.

Intestinal lesions from other causes often present symptoms just as vague. It is often impossible, in bullet wounds of the bowels or in lacerated wounds from blows, etc., to know, by the symptoms manifested, that any such lesion has occurred, and not infrequently the perforating gastric or duodenal ulcer will be unattended by early characteristic symptoms.

Fitz reports† that "in 56 cases of typhoid perforation, the onset was sudden; in 15, the symptoms were gradual, or latent, while in 5 there were no symptoms whatever pointing to perforation."

* Keen, *Surgery of Typhoid Fever*, page 218.

† *Ibid*, page 217.

What hope does surgery offer patients seemingly and really doomed by the occurrence of typhoid perforation? It is claimed by Murchison that 90 to 95 per cent. will die. For our part, we are forced to think that a majority of the small number supposed to have recovered spontaneously were cases of mistaken diagnosis—cases of local peritonitis without perforation. Granting, for the sake of comparison only, that Murchison's claims are correct, and that from 5 to 10 per cent. of suspected perforations will recover spontaneously, a knowledge of the triumphs of operative surgery in this field leaves no doubt as to its efficacy.

Dr. Keen* reduces the authenticated cases operated upon to 60 with 13 recoveries. Of the cases operated upon within twelve hours, 26.7 per cent. recovered. Of those operated upon between twelve and fourteen hours, 30 per cent. recovered; while we may expect a total mortality if the operation is delayed until after the twenty-four hours.

Statistics as to early operative intervention impress the fact that in this, as in so many acute intra-peritoneal infections, the "stitch in time saves nine." Certainly in some instances it is a simple operation to incise the abdomen, draw out a few feet of intestines, apply a few sutures, dry a circumscribed infected area, and perhaps close the abdomen without irrigation or drainage. Such a procedure should, we think, claim a small mortality from the operation *per se*. Late operative intervention in bullet wounds of the intestines, and in perforating ulcer of every kind, has been, and will be, attended with a high rate of mortality.

Ideal surgery contemplates an early operation, to prevent the occurrence of septic peritonitis, and not until this fact is appreciated will the highest possible ends of operative intervention be realized. Success depends upon getting into the abdomen early, and out of it just as quickly as is consistent with thorough work.

In the absence of shock, there was no reason why I should not have operated upon this child as soon as I saw him, which was 4 hours after the perforation occurred, and I should have done so if I had at that time been sure of my diagnosis. If I had done so, I would probably have anticipated the occurrence of septic peritonitis. Irrigation and drainage would not have been indicated, and twenty minutes of the time occupied in performing the operation would have been saved. Early operative intervention in bullet wounds of the intestines

will save from 65 to 75 per cent. of cases, and equally favorable statistics should result from early surgical intervention in perforating gastric and duodenal ulcer, and in appendicial perforations—i. e., if we operate early enough to anticipate and prevent the occurrence of diffuse suppurative or septic peritonitis. It is not the perforation that kills; it is the inevitable sequence of perforation—peritonitis—that destroys life by virulent ptomain production and absorption and the perversion of functions essential to life. Masterly inactivity is consistent with an intelligent appreciation and faithful discharge of duty only until a diagnosis is made, and only until the surgeon can prepare for the operation and secure the needed assistants. Further delay has been designated criminal inactivity. If shock exists, unless very profound, it is an open question, in my mind, if you should even wait for that to pass off, as not infrequently the shock of perforation will be merged into the shock of sepsis.

In the case of this little boy, although it had only been fifteen hours since the perforation, and not more than half an ounce of intestinal contents had escaped, yet the abdomen was full of sero-purulent fluid—noting how quickly suppurative peritonitis supervenes. Every hour of delay increases the quantity of the escaped intestinal contents and the area of peritoneal surface infected. My experience in late operations for typhoid perforation has been as unfavorable as the early operation is favorable.

A case met with in my own practice a few years ago would not consent to operation until impending death from general peritonitis was only a question of a few hours. Classical symptoms of perforation made the diagnosis easy in its incipency. Operation was advised within a few hours after the first symptoms of perforation, and offered a fair chance of success, as the case had been a very mild type of enteric fever, and the patient was practically convalescent. A section four days after the perforation revealed diffuse suppurative peritonitis, and a great sloughing hole near the ileo-cæcal junction. The patient survived the operation only a few hours.

A second case very similar to the above was seen in consultation with Dr. Virginius Harrison. Dr. Harrison and I did not see this case until general peritonitis was in full blast, but the symptoms of perforation, we were told, were typical, and were manifested several days before we saw him. This patient lived only a few hours after the operation.

A third case, seen in consultation with Dr.

* *Ibid*, page 227.

Edward McGuire, was also marked by unmistakable symptoms of perforation. Operation was at once advised, but was declined, and this young mother died within forty-eight hours from septic peritonitis.

My own limited experience, a study of the experience of others, and a comparison of the morbid changes incident to typhoid perforation, with those resulting from lacerated and bullet wounds of the intestines, and with intestinal perforations from other causes, impress the conviction that operative intervention, "if it were done, when 'tis done, then 'twere well it were done quickly"—quickly as to the time of beginning the operation, and quickly as to the time of finishing it.

That great abdominal surgeon, Gregg Smith, has written: * "At the worst, happen what may, the patient can be in no more deplorable condition than before operative interference was carried out, and I would plead for an attempt to reduce a mortality of 100 per cent."; and we would add that the surgeon's knife alone can shed kindly light amid the encircling gloom inevitably incident to typhoid perforation.

P. S.—It has now been four weeks since the operation was performed. Convalescence has been uneventful, and recovery is assured. Statistics should now read, 61 operations, 14 recoveries.

CHRONOLOGY OF THE METHODS OF ATMOSPHERIC INFLATION FOR INSPECTION OF THE RECTUM AND SIGMOID FLEXURE.†

By THOS. CHAS. MARTIN, M. D., Cleveland, Ohio,

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Proctoscopy will prove an "open sesame" to a newer proctology. As there seems to be some confusion of opinion concerning the time of its origin and the chronology of its evolution, the present time is opportune for a historical review of the subject.

In 1893, Dr. J. G. Carpenter¹ claimed that on November 30, 1835, he was the first to do proc-

toscopy. Further, he stated: "In obscure cases of disease of the rectum and sigmoid flexure, inversion of the trunk seventy to eighty degrees, dilatation of the anus with Sims' speculum, inflation of the bowels and electric or reflected light (the former is preferable), are indispensable to a thorough ocular examination and diagnosis. In some cases I have used a rubber tube, eighteen inches long, with good results. By inversion of the trunk seventy or eighty degrees, the pelvic and abdominal contents gravitate toward the diaphragm; a vacuum is formed in the rectum and sigmoid, which become inflated with air under forced expiration and anus patulous and retracted with a Sims' speculum; the mucous folds are effaced, and the bowel has almost the appearance of a straight tube; on inspiration, the bowel collapses and presents a curved tube, the mucous folds resuming their normal position. * * * The safest, surest and best way to intubate the sigmoid is in the Carpenter posture (?), and best by Carpenter's sigmoidoscopy."

In 1845, Dr. J. Marion Sims² discovered by chance that the hollow or tubular pelvic viscera would inflate, provided the orifice were opened at a time when the patient's hips were higher than the chest. He elaborated his discovery to a method of procedure. He first used the knee-chest posture, and subsequently the semiprone-semiflexed position with elevated hips. This posture became known as "Sims' posture," and the instrument which he designed as "Sims' speculum." The first published account of his method appeared in 1852 in the January number of the *American Journal of the Medical Sciences*.

In 1871, Dr. Wm. H. Van Buren,³ of New York, was the first to publish an account of the use of the identical postures and Sims' speculum for atmospheric inflation and inspection of the rectum and sigmoid flexure. Dr. Van Buren credited Dr. Sims with the idea.

In 1882, Dr. Wm. Allingham⁴ employed elevation of the patient's hips and a tubular speculum, and achieved good results. In subsequent editions of his book in 1888 and 1896, he repeats a description of his rather crude operation for inspection of the rectum through a cylindrical tube.

In 1887, Mr. Alfred Cooper⁵ described a sim-

¹"Clinical Notes on Uterine Surgery." William Wood & Company. New York. 1866.

²"Diseases of the Rectum." D. Appleton & Company. New York. Page 394.

³"Diseases of the Rectum." P. Blakiston, Son & Company. Philadelphia. Page 12.

⁴"Diseases of the Rectum." H. K. Lewis. London. 1887. Page 16.

*Abdominal Surgery, Vol. II, page 783.

†Being a portion of a paper entitled "Another New Method for Inspection of the Rectum," presented to the Association of Obstetricians and Gynecologists, meeting at Pittsburgh, September 22-24, 1898.

¹"Physiology of the Colon, Sigmoid and Rectum," *Jour. Amer. Med. Assn.*, February 19, page 424.

ilar posture, and suggested the use of two retractors for the purpose of opening the anus.

In 1887, Dr. Walter J. Otis,⁶ of Boston, published in Leipzig a monograph on the subject of rectal inspection, and described the use of the knee-chest posture and of two retractors.

In 1887, Prof. Esmarch⁷ described a method similar to that of Dr. Otis.

In 1895, Dr. Howard A. Kelly⁸ described a method of proctoscopy by means of tubular specula, which are very similar in construction to those of Dr. Edmund Andrews, which Dr. Andrews first described in 1887. Dr. Kelly's article, however, was the first to catch the attention of the general profession, and to him is due the credit of pointing out to a multitude of physicians the possibility of rectal inflation for inspection by such means. Kelly's technic and tubular specula are far superior to those of Mr. Allingham, who first employed a similar method in 1882.

In 1896, I published in the July number of *Mathew's Quarterly Journal of Rectal and Gastro-Intestinal Diseases*, under the title of "Proctocolonoscopy and its Possibilities," a description of a technic and new instrument, which increased the areas exposed to view, and which facilitated access to the part for the treatment of disease.

In 1896, A. Ernest Maylard⁹ briefly referred to the various methods.

In June of this year I presented to the American Medical Association¹⁰ a paper descriptive of a new and simplest method of proctoscopy which may be performed without the aid of any instrumental means whatever. The essentials are a patient, an assistant, and an operator provided with at least one finger on each hand. "Securely in the embrace of the assistant, the patient is to be balanced on his knees and shoulder, in which position he is to be held throughout the whole time of the surgeon's manipulations. The surgeon is to close his hand to point his index finger as shown in the illustration. So likewise the other hand. The wrists are to be crossed, the hands placed back against back, and the nails of the index fingers

placed one against the other, as shown in the illustration. The surgeon is to lubricate these fingers and gently to insinuate them through the anus and place their ends beyond the borders of the levatores ani. This accomplished, the anus is to be divulsed in the direction of the ischial tuberosities, by the surgeon forcibly parting his fingers. Under this manipulation the rectum becomes atmospherically inflated, and its surfaces are exposed to the view of the operator."

Review of the literature on rectal inflation for rectal inspection establishes the fact that Van Buren is entitled to the credit for priority; that Marion Sims was the discoverer of the possibility of atmospheric inflation of the hollow pelvic viscera; that there is much similarity in the methods of the various operators quoted, some using similar instruments and dissimilar technic, and *vice versa*; and it is made obvious also that he who would most insist upon a credit for originality must, sometimes, discount with the erudite his reputation for literary research.

The time has arrived when the profession must recognize that the rectum need no longer be regarded as a darkest continent; and I believe it will soon be considered an almost criminal negligence for a physician to evade his duty with the off hand declaration that the patient is the subject of an obscure rectal disease. There remains, however, something further to be desired in the way of an easier and more convenient method of manipulation to secure inspection, but I am confident that ere long the profession will accept the newer mechanical means and contrivances which will render a proctoscopy of as practical simplicity as is laryngoscopy. But it behooves us to remember the words of Edmund Andrews: "The false method is that of the bungler and amateur who is only right by haphazard; the true one is that of the professional expert who cannot be balked by petty obstacles, but who will reach success when others have failed, not less by his dogged persistence and thoroughness than by his superior knowledge."

I append four cases which make their own argument.

CASE I.—Six weeks ago an unmarried woman, about thirty years of age, was referred to me by Dr. David K. White with the suggestion that she was suffering from fistula in ano and a copious purulent discharge from the rectum. On bimanual eversion of the buttocks and ocular inspection of the ischio-rectal space I discovered the external orifice of the fistula situated in the posterior anal quadrant. Probing

⁶ "Anatomische Untersuchungen am Mänslichen Rectum." Veit & Company. Leipzig. 1887.

⁷ "Die Krankheiten des Mastdarmes und des Afters." Ferdinand Enke. Stuttgart. 1887.

⁸ "A New Method of Examination and Treatment of Diseases of the Rectum and Sigmoid Flexure."—*Annals of Surgery*, April number, 1895.

⁹ "Surgery of the Alimentary Canal." P. Blakiston, Son & Co. 1896. Page 566.

¹⁰ "A New Simplest Proctoscopy." Thos. Chas. Martin, M. D., *Journal of American Medical Association*. August, 1898.

discovered that its depth did not exceed a half centimetre. By means of the short anoscope I determined that the fistula had no internal orifice. A half ounce of pus escaped from the rectum on the withdrawal of the obturator from the anoscope. I at once inverted my chair, which placed the patient in a posture equivalent to the knee-chest posture,¹¹ introduced my proctoscope, withdrew the obturator, and saw that the anterior concave areas of the inflated rectal chambers were submerged in pus, and that the mucous surfaces of the chamber walls and rectal valves¹² were eroded in many places. I bailed out about six ounces of pus, and then observed that the rectum was abruptly obstructed opposite the sacral promontory. At this point there was a multifolded of the mucous membrane on the anterior wall, from which emerged a stream of pus on each inspiration. Placing my hand upon the abdomen, I pressed backward, and was able to increase the flow of pus, and by several repetitions of the manœuvre to see that at this situation there was an abscess discharging into the rectum. The case was referred to me during an interval in my hospital service, and was accordingly transferred by Dr. White to Dr. Humiston, who operated and evacuated a considerable amount of pus from a tubo-ovarian abscess.

CASE II.—The patient was referred to me by Dr. R. H. Pepper, of West Virginia. He illustrates the value of proctoscopy to the abdominal surgeon. The man was about 32 years of age, an emaciated subject, and was sent to me to be relieved of some internal hemorrhoids. Anoscopy revealed the hemorrhoids, but the proctoscopy, which wonderfully ballooned the rectum, exposed to view a tumor about the size of the hen's egg, situated at the junction of the sigmoid flexure and rectum. The patient was put to bed for a few days, when he was again examined by me in company with Drs. Rosenwasser and Crile. To these gentlemen I reported my finding, and asked them to make a bimanual examination of the patient, by means of which, I may add, we each failed to discover any confirmation of the proctoscopic finding, though the patient was profoundly narcotized, and he was a much emaciated subject. On proctoscopy, we discovered the tumor, which rested upon a sessile base, about five centime-

tres broad; it projected from the posterior wall to a height of three centimetres. At my request, Dr. Crile removed from it a piece of tissue, which proved to be that of a malignant adenoma. The patient was counselled to return to his home, and on the appearance of any signs of obstruction, to report again and submit himself to an operation for its relief. I am told that subsequently he visited Dr. Mathews at Louisville, and Dr. Murphy at Chicago, and finally, Dr. Coley at New York, to whom he was sent for the toxine treatment. The growth had progressed to such a size, and was so prolapsed by this time, that bimanual examination was able to discover its presence. It chanced that Dr. Crile, of Cleveland, was present at Dr. Coley's examination, and was able to extemporize a proctoscopic examination,¹³ and at Dr. Coley's request he again removed a piece of tissue. The microscopic inspection confirmed the diagnosis, which was made at a time when the patient himself did not suspect the existence of the tumor, and when expert abdominal surgeons were unable to detect its presence, though assured of its existence. Had a proctoscopy been performed when the patient first sought treatment for piles, which was perhaps a year or two before he consulted Dr. Pepper, the benign adenoma could probably have been removed by means of the snare.

CASE III.—A woman, aged 32 years, married, and childless, was referred to my clinic by Dr. C. B. Parker. She had been under the treatment of several physicians for stricture of the rectum, which the patient claimed had been many times subjected to divulsion. On bimanual eversion of the buttocks, ocular inspection of the field discovered an anovaginal fistula, with complete division of the transversus perinei, and of the external sphincter and at its anterior quadrant. Voluntary contraction of the external sphincter pulled the divided sphincter-ends backwards, so that the sphincter occupied only the posterior half of the anal circumference. Contraction of the sphincter, instead of closing, opened up the anus. Digital inspection discovered a stricture at the levator and zone, whose lumen was one centimetre in diameter. It was sufficiently elastic to permit the painless introduction, under infiltration anæsthesia, of a proctoscope two centimetres in diameter. Proctoscopy discovered a general hypertrophic proctitis with much erosion of the mucous membrane, and such a de-

¹¹ "Another New Method for Proctoscopy." Thos. Chas. Martin, M. D., *American Gynecological and Obstetrical Journal*.

¹² "The Surgical Importance of a Recognition of the Topographic Anatomy of the Rectum." Thos. Chas. Martin, M. D., *Columbus Medical Journal*, May, 1898.

¹³ "Proctocolonoscopy and its Possibilities by a New Method." Thos. Chas. Martin, M. D., *Mathews' Quarterly Journal of Rectal and Gastro-Intestinal Diseases*, July, 1896.

gree of hypertrophy of the lowermost rectal valve as is equivalent to the so-called annular stricture of the upper rectum. Application of atomized solutions of nitrate of silver cured the proctitis within a few weeks, and division and instrumental massage restored the rectal valve to its normal form and elasticity, *bilateral division* of the fibres of the levator ani and their fascias removed the stricture at that zone, and the following procedure restored the continuity of the sphincter and re-established fecal continence: Under infiltration anæsthesia, the sphincter ends were freshened and sutured, the mucocutaneous surfaces united, and *subcutaneous oblique division of both transversus perinei was performed, the last bone of the coccyx was disarticulated from its fellow*, and thus the muscular structures set adrift upon the sphincter, which, being relieved of the possibility of muscular tugging, united promptly and restored the mechanism of defecation.

CASE IV.—A young man, a student 18 years of age, tall, slender, and rather anæmic, consulted me in the summer of 1896. He reported that for eight or ten years he had daily, on defecation, had hemorrhage from the rectum. Proctoscopy revealed a bleeding pedunculated tumor about the size of the Malaga grape, pendant from the roof of the second rectal chamber and situated about fifteen centimetres from the anal verge. He had no other anal or rectal lesion. Assisted by Dr. Hubert L. Spence, I easily removed the polypus by means of the cold snare. The hemorrhage disappeared, and the patient grew robust within a few months.

These cases demonstrate the value of the routine practice of proctoscopy in all cases of proctica.

1077 Prospect Street.

ANTERIOR POLIO-MYELITIS. OR INFANTILE PARALYSIS.*

By CHAS. A. LABENBERG, M. D., Richmond, Va.,

Assistant to Chair of Clinical Medicine, University College of Medicine, Richmond, Va.

Among the various classes of disease that we are called on to treat there is none, as a whole, more difficult and trying to the physician than the nervous diseases. This is due, in part, to their relative infrequency, and in part to the fact that their pathology and causes are just at the stage of rapid elucidation.

* Read before the Richmond Academy of Medicine and Surgery, March 14, 1899.

In selecting infantile paralysis as the subject of my paper, I did so not because I wish to promulgate or advance any new ideas in regard to the disease, but simply to present a short paper on this seldom discussed subject; and if, in its reading, a single member of the Academy will have been so benefitted as to recognize the disease in its incipency, its object will be accomplished.

Possibly, of all the ailments the human system is heir to, there is none, in its incipency, so liable to baffle a young physician as infantile paralysis, presenting, as it does, an array of early symptoms almost identical with those of meningitis, neuritis and the exanthemata. These early symptoms will often mislead the most observant until the secondary or paralytic stage begins, when we become aware of the fact that, instead of a slight fever, we have that slow, "anti-reputation" disease, called infantile paralysis, to treat. Instead of a disease, as we first thought, that would last only a few days, we have one which may take months and months to relieve, and one in which we can, by no means, give a favorable prognosis as to cure. Thus it is we are often forced to acknowledge that our little patient has a paralyzed limb, after assuring the mother that her child has "only a slight attack of fever." Now, how much better it would have been, both for the patient and the doctor, to have diagnosed the disease as such from the beginning.

Infantile paralysis is defined as a motor paralysis, generally monoplegic, of muscles that are associated in function, followed by atrophy and electrical changes in them, with the cerebral, sensory, rectal, and vesical symptoms, slight or entirely absent.

The disease may be either acute, subacute or chronic, and has three stages—febrile or initial, the paralytic, and the chronic.

In the *initial stage*, the patient has fever, lasting from one to seven days—vomiting, headaches, pains in the muscles, slight coma, convulsions, and other reflex symptoms.

The *paralytic stage* generally follows this very closely, but it is no uncommon occurrence to detect a slight paralysis on the first day of the fever. The onset of the disease is always sudden. The paralysis is easily recognized by its flaccidity, coldness and bluish cast, due to poor circulation. It is usually general—affecting most of the voluntary muscles. In a few days, there is a spontaneous recession, leaving only certain groups affected.

The most common form of paralysis, in the majority of cases, is monoplegia of the lower

extremity. During the second week, atrophy of the paralyzed muscle will be observed, as well as commencing alterations in the electrical response, and the limb will become smaller and changed in its contour.

Various deformities may result from this paralysis, such as varus, equinus, equino-varus, lordosis, etc.

Among the many agencies supposed to cause this disease the following are the most important: Syphilis, dissipation, age, infection, exposure to cold and dampness, trauma, acute diseases, and sometimes it appears to be idiopathic in its origin.

The disease is most often met with in infancy and between 18 and 30 years of age.

The Pathology of anterior polio-myelitis is still obscure, or at least not fully understood, notwithstanding our wonderful advances in the study of the pathology of nervous diseases. That it is due to the atrophy of the ganglion cells of the anterior horn is supposed to be the correct theory. Whether the inflammation is interstitial—affecting the neuroglia primarily—and then affecting the ganglion, or whether it is parenchymatous or ganglionic from the offstart, is still a debated question; but the profession at large generally accepts the former as the correct idea. This inflammation may involve all of the gray matter of the cord. That part which is mostly nourished and supplied with blood-vessels is the first to be involved. The germ theory has been advanced as a probable cause, and this theory is somewhat strengthened by the fact that the part mostly supplied with blood-vessels is the part first involved. There is also a decided change in the atrophied muscles, the muscular fibres disappearing and being replaced by adipose tissue.

The differential diagnosis in infantile paralysis is very important. Especially is this so at the very beginning, simulating as it does at this stage meningitis, the exanthemata and neuritis.

In *meningitis*, we have a great many more cerebral symptoms, more rigidity of the neck, the headache is more severe, and the coma and convulsions are more lasting than in infantile paralysis. Another important point is that in meningitis there are more cranial nerve affections.

In *neuritis*, the onset is more gradual, the nervous symptoms are fewer, and there is pain along the paralyzed muscles persisting for a long time.

The prognosis must always be guarded, as a complete cure is almost out of the question. We can assure the family that death is very rare, and if it does occur it will be in the first

four weeks; then again, the mind always remains clear—a point it is well to remember, and so inform the parents. The resulting deformity may be so slight as to be hardly noticeable; but any one of the various deformities of the foot, as well as lordosis, may result. No correct prognosis can be given at the onset; but the greater the involvement of voluntary muscles, the graver should the prognosis be.

Treatment should be divided into two periods. During the first, it should be directed to the general condition, and the use of such medicines as will reduce the fever; a thorough purge; small doses of the bromides, quinine, ergot, and local irritation over the spine. Iodides are also given to a great extent as soon as the disease is recognized. Of course, the diet should be nutritious and easily digestible.

After the acute stage, the paralyzed muscle should receive attention. The methods used to restore their tonicity and function are electricity, massage and gymnastic movements.

Electricity may be used once or twice a day, each sitting being about fifteen minutes in duration. The current should be just sufficient to cause slight contraction. Both the faradic and galvanic currents can be used together or alternately. If after several months' treatment deformities result, orthopedic measures should be resorted to as soon as possible.

In order to bring out all the salient points to be noted in a typical case of anterior polio-myelitis, I shall give the history of a case, which has been under my observation since last June.

Some time about the middle of June, 1898, I received a call to see a child about five years of age. On questioning the mother, I found that the patient was comparatively well the day previous, but during the night she became feverish, complained of headaches, and vomited slightly. Her temperature was found to be 102° F.; pulse rapid, bowels constipated, and there was slight coma, with occasional convulsions, and crying out on pronounced pressure on the body—in other words, her symptoms were those of an ordinary attack of fever, often seen in children at this age. I placed her on the usual remedies used in such cases with good results, and in about ten days discharged my patient as cured.

A few days later, I was sent for again, and was told by the child's mother that her little girl was unable to walk. On examination, I found a general paralysis of the left side, with considerable pain on being forced to stand and slight pain at all times, even though she was in the recumbent position. This pain was always referred to the posterior region of the

thigh and hip. There was no fever, rapid pulse, vomiting, or any of the febrile symptoms of the first stage—just simply the paralysis, pain, and what is natural to suppose in a child of her age, a great deal of restlessness. Another quite annoying symptom at this examination was a peculiar papular eruption over the entire body, which disappeared in four or five days.

With this array of symptoms and the previous history, it was evident that my patient was suffering from an attack of infantile paralysis. She was given ten drops of ergotole three times daily, with three drops of a saturated solution of iodide of potash. Her spine was rubbed four times daily (five minutes sittings) with ice, and her paralyzed limb was massaged and rubbed with an alcoholic liniment every two or three hours. After two or three months a considerable improvement was evidenced in the affected part; therefore, the use of the ice and the dose of ergotole were gradually lessened, and at the expiration of about five months these agents were dispensed with entirely. The iodide, in conjunction with an iron tonic, however, were persisted in, and is being used to a small degree at the present time, as is the massage. A steady but slow improvement is noticeable, and while the limb is of course weak and smaller than its healthy mate, the results have been altogether satisfactory. The little patient is now able to walk without any assistance, but as a resulting deformity I fear talipes equinus, together with a slight abnormal movement of the hip joint.

The two important points to which I desire to call your attention are: *First*, the difficulty of diagnosing the disease at the very beginning; *second*, that the prognosis in all cases must be guarded as regards a complete cure.

8 Grace St., East.

Ethcol,

Introduced by Battle & Co., is receiving good reports. Dr. A. L. Stiers, Dawson, Neb., had good effect from its use—teaspoonful six times daily, and injected in a painful wound produced by a hedge-thorn. A cloth saturated with ethcol was also laid over the wound. In four days, the pain, swelling and inflammation had all gone, the wound healed, and the patient was able to do her work.

Proceedings of Societies, etc.

RICHMOND ACADEMY OF MEDICINE AND SURGERY.

Meeting March 14, 1899.

Dr. Mark W. Peyser, Recorder.

Dr. Ernest C. Levy, President, in Chair.

Anterior Polio-Myelitis, or Infantile Paralysis.

Dr. Charles A. Labenberg read a paper on this subject. [See page 726.]

DISCUSSION.

Dr. J. Allison Hodges rose to coincide with Dr. Labenberg's views, especially with regard to the incipency of infantile paralysis, and he desired to particularly caution those physicians who had not had experience with this disease, so that they might not bring discredit upon themselves nor upon the profession. The febrile stage, as was said, is not different from that of the exanthemata; nor does it differ from biliousness, so-called, or malaria. He would suggest that in the treatment of children, we should be more particular than usual, for they have not the power of expressing themselves. When we receive the mother's account of the child's sickness, we, in a rush, are too prone to accept both her theory of causation and diagnosis. Latterly, when called to attend children, we have always had them stripped for examination. He believed that the gluteal muscles will show as quickly as any others the existence of atrophy, and to perceive it a posterior view is necessary. Four cases that he had seen were peculiar, in that the eruption was pustular. The disease in one of the cases was precipitated by a bath in the ocean at Virginia Beach, the child being taken in by its father, who kept it in as long as he remained there. The heat of the sun was probably the cause, together with the too long bathing. In treatment, he would insist on massage and gymnastic exercise. He thinks it rarely advisable to give the coal-tar antipyretics, for it is essential fever, and as Dr. Labenberg suggested, if the patient is quieted, the fever will take care of itself.

Dr. H. H. Levy remarked that Dr. Labenberg's paper covered every important point. He had his own idea, he said, of the reason why most cases of this disease occur in early childhood. We know that young children are excessively active. There is relatively more muscular effort made at this period of life than subsequently, the child being in its waking hours perpetually on the go. This means that

a greater amount of nerve force is being expended, and the cells from which the force is derived must be more active than at any other time, and it may be that any cause, any influence or disease that disturbs the equilibrium of the system will affect most readily the over-worked nerve cells with the result of producing inflammatory changes in them and in the surrounding nervous tissue. Pathologists tell us that degenerations in the cord in infantile paralysis are found most often in the cervical and lumbar regions—the very portions from which arise the motor nerves of the upper and lower limbs. Why the disease should attack one side of the body and not the other he did not know. He thought it probable that malaria and any of the infectious diseases of childhood may be causes, and that exposure to extremes of heat or cold certainly is a cause of infantile paralysis.

As regards prognosis, we can usually foretell by the end of the second week whether there is going to be a satisfactory recovery. If at the end of the second week the muscles respond moderately well to the faradic current, there will almost certainly be a restoration of motor power nearly complete; but, if on the other hand, there is no response to the faradic current, the chances are that the paralysis will be permanent.

Treatment.—Regarding this, he agreed with Dr. Hodges, except that he believed that the fever should be controlled by suitable measures. He considered the application of ice, either in a bag or by rubbing over the spine for ten minutes every three or four hours, a valuable remedy in this affection.

JOHNS HOPKINS MEDICAL SOCIETY.

Meeting Monday, March 6, 1899.

"Tendon Transplantation, with Report of Seven Cases."

The author of the paper, Dr. Knox, reviewed at length the literature bearing upon this subject, and described the methods adopted to-day in the effort to regain lost functions in a limb that is distorted or paralyzed. He reported seven cases of tendon transplantation performed in the Hopkins Hospital by Drs. Finney and Cushing, and exhibited photographs showing the remarkable improvement in patients brought about by such an operation.

DISCUSSION.

Dr. Cushing had nothing to add to Dr.

Knox's very careful review of tendon transplantation, but one could readily see what extreme interest there must be to a surgeon in cases of this kind. The interest at the operating table is intense—first, watching the readjustment of muscles for the sake of getting new functions in a foot which is without proper muscles, and, secondly, the pleasure of seeing lame individuals made to walk better. When one sees, as we do every day, cases of paralytic club foot walking badly on the street, we feel that if they are only brought to the attention of surgeons with sufficient emphasis, during the next few years such cases will be rare—in fact, as rare as cases of Pott's disease are today.

Dr. Finney said that it is a most interesting subject, one comparatively young, and in which there is a great field for development; also, the methods which are in vogue at present must be tested by the great rule of time to try their efficiency, and even these methods are undergoing constant change. It certainly offers a most interesting field for the surgeon and a most helpful one for the patient.

Treatment of Acute Otitis Media Following Influenza.

Dr. Theobald spoke especially of the abortive treatment of these cases when one could see them in the earliest stage. Every one knows that many serious cases of ear disease have followed influenza, and a larger number than usual have involved the mastoid process, also many the bone in the neighborhood of the tympanic cavity.

The statistics which Dr. Bacon gives bearing upon this subject are very interesting. A few years ago from twelve to twenty cases of mastoid disease were about the average number met with at the New York Eye and Ear Infirmary; in 1896, there were 135 mastoid operations; in 1897, there were 161, due to the prevalence of influenza and the great number of serious ear cases which have followed it.

The most serious involvement is when the brain is affected. The brain as secondary to suppurative trouble of the middle ear, may be involved in several ways. Epidural abscess is one of the more common forms of purulent meningitis; abscess of the brain substance itself is another, and thrombosis of the lateral or sigmoid sinus is still another.

In reference to infection of the middle ear, there are several ways in which the tympanic cavity and mastoid cells may be involved in this affection, as in other types so common, such as scarlet fever and measles, the most common being through the Eustachian tube. Na-

ture has provided an arrangement to lessen the likelihood of this occurring, the citiated epithelium of the Eustachian tube acting to prevent the entrance of bacteria from the nasal cavity to the middle ear, but it is only partially successful. The middle ear is also not infrequently involved through perforation of the tympanic membranes, the entrance in that way being through the blood vessels or lymphatics. Various organisms have been found in the suppurative middle ear inflammation in connection with grip and other diseases. *Staphylococcus aureus* and *albus* are frequently found, and are more apt to be present in the milder cases; *pneumococcus* and *streptococcus pyogenes* mark the more serious cases as a rule. The micro-organism which is supposed to be at the bottom of the influenza is occasionally found, but not usually in the suppurative cases without the accompaniment of other organisms. His own experience is that the purulent infection occurs very frequently in the middle ear inflammation, either after the perforation of the tympanic membrane (in some instances the infection occurs, of course, after an incision of the drum membrane) or after the attack has actually occurred, but it is not always so. Often on making an incision of the tympanic membrane the discharge which comes through the incision is not purulent, but sero-mucous in character, somewhat tinged with blood, and does not contain pus. It is a very difficult matter, even with full antiseptic precautions, to prevent infection after incising the tympanic membrane, the skin lining the external auditory canal not being so easy to get at as that of other parts of the body.

If we could see these cases within a few hours the attack could be cut short. This is to be desired, because if the inflammation runs to the point where an incision of the tympanic cavity is necessary, it is extremely difficult to prevent suppuration.

He then referred to a fatal case of middle ear disease. The patient had had influenza and was afterward exposed to cold. On Friday evening she was taken with earache and suffered severe pain; the next day she was given morphia rather liberally, and on Sunday she began to show symptoms of muscular irritation, with something like spasmodic movements of the limbs. On the following evening she was entirely unconscious, with a temperature of 105° and a very rapid pulse. There was no reason to suppose the mastoid process was involved, and but little optic neuritis, so that he decided there was nothing for him to do, but that an operation upon the brain itself might be neces-

sary. Dr. Finney was called, but decided that it was too late to take any operative steps.

This, of course, is an extreme instance of what may happen with suppuration of the middle ear, the patient being taken Friday evening and died on Tuesday before noon. If we can then abort these cases, it is most important to make the attempt, and make it very early.

Dr. Theobald's plan of treatment is to use, promptly, in the ear a solution of atropia. To this he has added recently cocaine, giving one grain atropia sulphate and two grains cocaine muriate in two drachms of distilled water, about eight drops being poured in the ear three or four times a day, according to the pain. Several years ago, after consulting with Messrs. Hynson & Westcott, he had prepared an oily solution with the alkaloids of atropia and cocaine which has certain advantages. The oil remains in contact with the tympanic membrane and walls of the canal better than the watery solution, and where there is a small perforation, it does not find its way so readily into the middle ear, to produce more constitutional effects than is desirable. With this local treatment which he has prescribed, he often combines the administration of small doses of calomel until it produces the desired effect upon the bowels, or, failing to get such an effect, he follows it up with a saline cathartic. He has often found it convenient where acute tinnitus is present, to give muriate of ammonia in ten-grain doses perhaps four times a day. The pain, of course, is not always relieved by the local anodynes, and then it may become necessary to supplement them with morphia. It is not safe, of course, to wait indefinitely for the action of this remedy, but he is sure he waits longer than some would before incising the tympanic membrane. Not infrequently he uses the local treatment, when many others would be called upon to incise the tympanic membrane; he may even find some bulging, and yet feel warranted in treating the case in this way. If the pain is not overcome, and there is evidence that the tympanic cavity is distended, free incision should be made, and preferably through the posterior portion of the membrane. One does not make a small puncture, but makes a liberal incision, beginning in the upper posterior border and carrying it down parallel with its posterior margin. After this has been done, syringing out with an antiseptic solution like boracic acid two or three times a day is adopted, and if this treatment does not promptly bring about a change, a weak solution of bichloride, from 1.8000 to

1.4000, is used. The effect upon the hearing is not usually disastrous, even in the more serious cases, and in the less severe cases we expect the normal hearing to be restored.

DISCUSSION.

Dr. Reik believed in free and early incision of the tympanic membrane; but, where it is possible to adopt the conservative line of treatment, he would, in addition, make use of the local extraction of blood, either by natural or artificial leeches applied over the mastoid region. He had tried this a number of times during the recent epidemic of grip (he thinks these cases have been much more common this year than in the former epidemics), and had been pleased with the result. In many cases, the cocaine and atropia seem to have little or no effect upon the pain, but a few minutes after leeching, the pain disappeared and the patient went to sleep.

Dr. Theobald said there was no question as to the value of local extraction of blood in these cases, especially in the more severe attacks.

Dr. Finney said that when he saw the patient *Dr. Theobald* had referred to she was comatose, with a pulse that could hardly be counted, and a temperature of 105° or 106°, and utterly beyond operative treatment. No evidence whatever could be obtained that would aid in the localization of the trouble, and even if the location of the trouble could have been ascertained, at that time there could have been no operative interference.

He referred to a similar case, but with a more happy termination. About ten days after she had apparently recovered from grip, the patient was taken with earache in the right ear. She noticed some slight discharge on the pillow, but the physician was unable to find any discharge from the ear, nor was there any from either ear when seen by *Dr. Finney*. The patient was stupid and dull, different from her usual manner; could be roused to answer questions intelligently, but had to be shaken, and upon pressure upon the right mastoid she evinced some pain, though nothing else seemed to disturb her. There was no evidence of swelling or redness or other mastoid trouble other than history of headache on that side and some tenderness. He thought it best to open the mastoid cell, and did so, but found it empty, and no evidence of trouble so far as he could detect. He continued the opening in the bone until the lateral sinus was exposed, and this he punctured. It bled very freely, and he was quite convinced that the lateral sinus was not thrombosed, at least. He

drained the wound, and the patient made a rapid improvement and is now entirely well.

Hitherto Undescribed Peptonizing Micrococcus Causing Ulcerative Endocarditis.

Dr. Hastings related the history of a case of ulcerative endocarditis, from which *Dr. MacCallum* secured the organism in question.

Dr. MacCallum said the autopsy revealed an endocarditis of the aortic and mitral valves, both of which were covered with vegetations. The organism is a small micrococcus, appearing in pairs for the most part; is not motile, and stains well by Gram's method. It some what resembles the diplococcus lanceolatus, and is not a profuse grower. It grows best upon glycerine or glucose agar. In litmus milk it first decolorizes, then coagulates, and peptonization and digestion of the clot follows. This appears to be a new organism not hitherto described, and *Dr. MacCallum* suggests for it the name of *diplococcus zymogenes*.

DISCUSSION.

Dr. Flezner thought there could be no question that this is a new organism. Although it resembles some of the known forms, yet its differences are greater than its resemblances.

CLINICAL SOCIETY OF MARYLAND.

Meeting Friday, March 3, 1899.

Our Materia Medica

Was the title of paper by *Dr. Joseph T. Smith*. In its discussion,

Dr. C. Urban Smith said that our materia medica is certainly a very unfortunate combination. It is hard to tell what to eliminate, because we are likely to eliminate many drugs of great use, but which have not been studied carefully, and their general action upon the system is hardly known. The physiological action of the drugs is the most important part, and when they are so studied we will then be able to see the advantages and disadvantages of the different drugs.

Dr. McConachie thought the author of the paper correct when he said our materia medica is in danger of becoming too cumbersome. There must be a cause for this, and he thinks it is due to the fact that we want something to relieve something, and have not quite made up our minds what we intend to relieve. The manufacturers have noted this uncertainty in diagnosis, and if medical men will carefully study the nature of their cases and make an exact diagnosis, not for the sake of the diag-

nosis, but for the sake of applying appropriate treatment, the manufacturers would largely get out of business. What we need is something, not for the operator or for the doctor, but something appropriate and safe for the patient.

Dr. A. K. Bond believes thoroughly in drugs, but he believes still more in the power of the human body to heal itself. A great many people think of man as a test-tube with a certain amount of disease germs and poisons in him, and that certain drugs must be administered to either kill or cure him. The best doctor is the one who gives the patient a chance to get well of himself.

Dr. W. J. Todd says it is hard for many men to rise above their early teachings; very often they get the idea that they must use the drugs simply because they are in the materia medica. He would only suggest what he considered an appropriate quotation: "Prove all things, and hold fast that which is good."

Dr. Robert Reuling presented the record of a "Case of Hemiplegia, Showing Hemianesthesia and Muscular Atrophy, due to an Intracranial Lesion."

Dr. Paton wished all could be made to feel how very important cases of hemiplegia are. The question of diagnosis is very important for the patient, because that involves the question of treatment and prognosis; and there is no more difficult diagnosis to be made than the diagnosis between the functional and organic hemianesthesia. The atrophy referred to in this case was a very interesting point, and one that has been under dispute for a very long time. It had been referred to by certain writers as being probably due to the disturbances in the cord, due to adhesions that followed the cerebral lesion. The question has been debated very seriously, and recently the question has been taken up anew. A great many think that these atrophies after cerebral lesions are really due to latent disease in the joints, and not due to the cerebral lesion. It is also believed by some that they are probably due to paralysis of the vascular system.

Listerine as Antiseptic.

According to some experiments made by Dr. A. T. Cabot (*Bost. Med. and Surg. Journ.*) as to the "Strength of Antiseptics," it was found that *listerine* compares favorably with the most reliable agents for the rapid destruction of micro-organisms.

Analyses, Selections, etc.

The Vitality of Epithelial Cells, and the Etiology of Cancer.

What the nature of the irritant may be that causes the localized overgrowth of epithelial cells which we call cancer, we are yet no nearer knowing than we were before the demonstration of its exact pathology, more than half a century ago. Notwithstanding all the claims that have been made of the causal influence of external biologic factors, parasites from bacteria and fungi, schizomycetes and blastomycetes to various forms of animal parasites, gregarinæ and protozoa generally, we are no nearer the solution of the problem than we were before.

Of late the subject has been approached from the other side, the essential vitality of epithelial cells and their reaction to various irritants, and some most interesting results have been obtained by various observers. In Dr. Hektoen's review of this subject for the first number of *Progressive Medicine*,* (the advance sheets of which are in our hands), we find some striking observations on the subject colated. Ljunggren, a Scandinavian physician, for instance, found to his surprise that he could preserve carefully sterilized bits of human skin in sterile human ascitic fluid for months, and that the cells of the tissues retained their vitality. Three months after their removal from the body the cells of the deeper layers showed well stained nuclei and good protoplasmic structure.

Successful transplantation was made with pieces kept in such sterile fluid for a month. Small pieces of the transplanted skin were removed at varying intervals, and it was found that a marked proliferation of epithelial cells, showing many nuclear figures, had occurred. Special precautions were taken, which absolutely assured the absence of cells that might have grown in from the surrounding cutaneous margin, and so vitiated the conclusions. The transplanted cells not only grew over the raw surface, but penetrated also into the granulation tissue beneath, after the manner of a beginning carcinomatous growth.

Almost more interesting and suggestive than this are the observations made by Loeb here in America on epithelial regeneration. The abstract of them by Dr. Hektoen in *Progressive*

* A Quarterly Digest of New Methods, Discoveries and Improvements in the Medical and Surgical Sciences, Vol. I, No. 1, March, 1899. Edited by Hobart A. Hare, M. D. Lea Brothers & Co., New York and Philadelphia.

Medicine is so clear and succinct that we copy part of it verbatim:

"From the margin of a tissue-defect huge epithelial protoplasmic or plasmodal masses move in a sliding manner over the naked surface, inclosing and dissolving the crust and other obstacles. Regenerating epithelium readily removes such substances as cartilage when placed in its way. Below the protoplasmic layer epithelial cells wander in from the margins of the defect, and often grow down into the connective tissue, apparently checking the growth of the latter. The process is closely allied to changes in carcinoma. At the same time active changes, such as mitoses, occur in the epithelial cells removed some distance from the margins of the wound. . . . Loeb believes that the wandering of the cells, as outlined, is in response to stereotropism, and forms a determining factor in inducing mitosis in the remaining cells."

The pregnant significance of these observations, especially the apparent action at a distance of epithelial elements in arousing epithelial cells into reproductive and germinal activity, can scarcely be over-estimated. This is the essence of carcinoma, though in healthy subjects the vital resistance may be sufficient to restrain the morbid overgrowth that would otherwise result.

According to Loeb: "If a small bit of epithelium is placed in the centre of the crust covering a defect in the skin, it begins to send out processes in all directions into the crust—the cells acting as separate organisms, independent of blood supply or nervous influence." We are evidently closely in touch, in these manifestations, with the as yet inexplicable vital forces that we see at work in all their untrammelled energy and power in cancer. Further observations are needed to give the deductions from these observations practical application. They constitute, however, the most hopeful aspect of the present pathological work on cancer, as far as regards the near prospect of discovering its etiology. Their value as additions to biological science, especially to that mysterious problem, the struggle for life among the various cells of the body tissues, can scarcely be over-estimated.

Book Notices.

American Text-Book on Diseases of the Eye, Ear, Nose and Throat. Edited by G. E. DE SCHWEINITZ, A. M., M. D., Professor of Ophthalmology in Jefferson Medical College, etc., and B. ALEX. RANDALL, M. A., M. D., Ph. D., Clinical Professors of Diseases of the Ear in the University of Pennsylvania, etc. Illustrated with 766 Engravings—59 of them in Colors. Philadelphia. W. B. Saunders. 1899. Imperial 8vo. Pp. 1251. Cloth, \$7 net; sheep or half morocco, \$8 net.

One cannot open this exhausted work without recognizing its great value, and the authoritative position it must take among the standard medical books of this fast passing last period of the nineteenth century. We may speak of this work as a masterpiece of excellence in every particular—supplying every want of the practitioner so far as the present knowledge of ophthalmology, otology, rhinology, and laryngology is concerned. The authors have all well undertaken their tasks of making practical chapters on the subjects to the preparation of which they were severally assigned. There are sixty contributors to the pages of this volume—one from Canada (Dr. Buller, of Montreal), and two from South Carolina (Drs. Charles W. Kollock and W. Peyre Porcher—both of Charleston). All the others are from Northern and Western States. While we congratulate the editors in their selection of two of the South's ablest and most eminent specialists as contributors to this work, we cannot help feeling disappointed in that other Southern teachers of rank equal to any named in the list of authors were not also chosen, and thus have given the work a juster claim to the title of "an American text-book." But this may appear to some a too sectional criticism, for it does not affect the true merits of the book.

It would be hard to specify the best chapters—they are all good; and, in fact, made up, as the articles are—each receiving the benefit of the criticism of other contributors to the volume before it was published—the articles may be said to be the combined contributions of many authors. All points of diagnosis and the details of description of both the condition to be treated and the procedures of operation are well and thoroughly drawn out. The engravings assist very much parts of description that words alone could not make plain. The "index" is well constructed with very helpful cross references, which make it easy to quickly find on what page a matter is discussed. All

in all—including the publisher's part, of course, it is a book of which it may be written—*ne plus ultra*.

The Sexual Instinct—Its Use and Dangers as Affecting Hereditary Morals By JAMES FOSTER SCOTT, B. A., M. D., C. M., Late Obstetrician to Columbia Hospital for Women, and Lying-in Asylum, Washington, D. C., etc. New York: E. B. Treat & Co. 1899. Small 8vo. Pp. 436. Library cloth, \$2.

If the intent of this book were accomplished by its reading, it would be well for it to have a general publication. It deals with facts as seen and recorded. The perversive side of the sexual instinct is depicted with a graphic pen, and it portrays such horrors and misery as the result of the perversich as to drive man and woman to seek the homes of virtue for his or her protection. But whether a prurience or a desire to learn prompts the reading of this book, much can be learned of use to the physician. After remarking upon a just appreciation of the importance and influence of the sexual instinct, the physiology of sexual life is given. The consequences of impurity from a personal standpoint is calculated, and the unmanliness of degrading woman is strongly presented. Some of the influences which incite to sexual immorality and that lead a woman into prostitution are stated. Regulation of prostitution is next discussed. Criminal abortions, gonorrhœa and complications of it, chancreoid, and syphilis are described, and the results of onanistic debauch are told in such a manner as to horrify. All sorts of sexual perversions are also told about. The person sexually tempted to go astray, if he could be then induced to read sections of this book, would be saved many a sin and anxiety, and much suffering of body and mind.

Origin and Progress of Renal Surgery. By HENRY MORRIS, M. A., M. B., Lond., F. R. C. S., Hunterian Professor of Surgery and Pathology, Royal College of Surgeons of England, etc. Philadelphia: P. Blakiston's Son & Co. 1898. Small 8vo. Pp. 288. Cloth, \$2.

This volume contains the Hunterian Lectures for 1898, with special reference to stone in the kidney and ureter, and with added chapters on the surgical treatment of calculous anuria, together with a critical examination of subparietal injuries of the ureter. To the physician, the work is of special importance with reference to points of diagnosis; to the surgeon, it is of very special value because of the brief abstract of 267 operations performed by the

author upon the kidney during his seventeen years. The Lectures themselves are limited to calculous disorders. A chapter of merit and of practical value is on "Injuries of the ureter." We note that the author in preparing this book has made reference to the work done by many American surgeons in the special field of operations to which this book is almost wholly given. Numerous wood cuts illustrate the appearances of the kidney, certain essential points in operation, etc

Editorial.

Northwestern University Woman's Medical School.

Dr. John Ridlon, the Corresponding Secretary, Chicago, informs us that Dr. Marie J. Mergler has been elected Dean of Northwestern University Woman's Medical School, in place of Dr. I. N. Danforth, resigned. Dr. Danforth has been elected Dean Emeritus.

The yearly course at this school has been changed from one of two semesters to one of four semesters of twelve weeks each, commencing the first of July, October, January and April. Three semesters will be required; the other semester will be optional. The number of regular students will be limited to 100—twenty-five in each class. They will be admitted to competitive examination for place in class, only after having complied with the requirements of the State Board of Health.

Wanted—

A copy of a "Text-book on Pharmacology, Materia Medica and Therapeutics," by T. Lauder Brunton. Any reader of this notice having a copy of this book in good condition for sale will find a purchaser by addressing "Dr. X., care of *Va. Med. Semi-Monthly*, Richmond, Va."

Dr. Irving C. Rosse, of Washington, D. C.,

After an absence of several months among English cousins, has just returned from London, where he has been studying in various hospitals the latest advances in the treatment of nervous and mental diseases.

Dr. M. D. Hoge, Jr., Richmond, Va.,

Was elected during January, 1899, a Fellow of the Royal Microscopical Society of London—an honor of which any may be proud; but he deserves it.

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